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LABOR DISPUTES AND ARBITRATION.

IN all disputes between capital and labor, the slogan—"Let Us Arbitrate," has carried with it a genuine ring of truth and sincerity.

Whether it be nations or individuals that are in conflict, the same rallying cry for peace and harmony between opposing sides, is always a commendable and desirable thing.

Strikes and lockouts have rarely, if ever, been conducive to a perfect adjustment of difficulties arising between employer and employee. The result has usually been the temporary demoralization of business, and a waste of time, money and energy.

Plumbing contractors and others in the trade who employ labor year in and year out are constantly confronted with the possibility of strikes and lockouts.

The most scientific method of handling the situation is to "agree to disagree" by the peaceful method of arbitration. Many employers of labor have succeeded in instituting this policy with gratifying results.

In the clothing industry in the east, according to the U. S. Department of Labor, the "protocol" or "treaty" plan has been in vogue for several years between employer and employee, and excellent results have been obtained.

The first protocol idea in the clothing business, adopted in 1910 in the New York cloak, suit, and skirt industry benefited some 50,000 people, by its peaceful settlement of grievances. This was followed in the early months of 1913 by 6 new protocols in New York and Boston, affecting about 65,000 people.

The principal features of the protocol idea are conciliation and arbitration through a board of grievances and a board of arbitration. When a dispute arises between employer and employee, the aggrieved party must bring his complaint to the board of grievances through his own organization. Two deputy clerks, one representing each side, first investigate and try to adjust the complaint. Failing adjustment by the deputies, the case is next carried to the chief clerks, and if not settled by them, to the board of grievances or the wage scale board. As a final resort a case may be carried to the arbitration board which is the supreme court of the industry.

In the prompt adjustment of grievances, great success was achieved during the first eleven months of the protocol in the New York dress and waist industry. Of the 4,566 cases filed and satisfactorily adjusted, 98 per cent were settled by mediation.

The preferential union shop under the dress and waist protocol involves the fundamental principles of preference to members of the union both in hiring help and in retaining help during dull seasons. The application of these principles has met with much less success in the dress and waist industry than in the cloak, suit, and skirt industry. This has been due to the inability of the manufacturers' association to control the rank and file of its members, though it has made earnest efforts to do so. **On the other hand, the ability of the union to prevent frequent shop strikes has resulted in great service to the members of the employers' association.**

In the protocol idea, **plumbing contractors and manufacturers who belong to employers' associations, can secure much food for thought in formulating ways and means for the peaceful settlement of all labor disputes.**

Hot Water Heating in a Modern Residence

The Up-to-Date Hot Water Heating System in the Handsome Residence of Israel Putnam, at Greenwich, Conn., Illustrated and Described in Detail

By H. L. ALT

THE up-to-date plumbing system in the handsome residence of Israel Putnam, at Greenwich, Conn., was described and illustrated in "Domestic Engineering" some time ago, and the reader will doubtless find that the hot-water heating system in this residence, to which this article is devoted, will prove most interesting, as the writer designed this system and ran up against some problems (owing to the construction of the building), which called for several original "stunts." These will be taken up in detail in this article, and the exact method of figuring will be given so that the amateur in this sort of work will see exactly how the results were obtained. It may also be possible that some of the more advanced students in heating (for who knows it all?) will also find some original ideas incorporated.

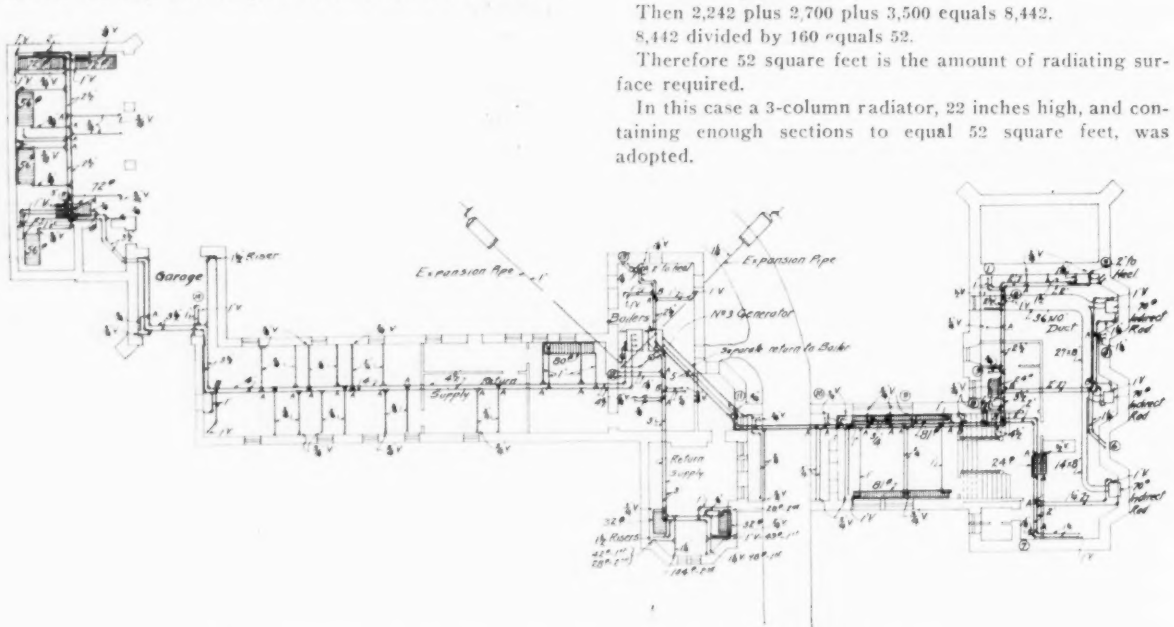


Fig. 1—Basement Plan of Hot-Water Heating System in the Putnam Residence.

In the first place this residence was laid out originally for a one-pipe steam system, then for a vapor-vacuum system, and finally as a hot water system. Neither the owner nor the architect had very positive ideas, at first, on the heating question; in fact, the owner would have been satisfied with a hot air furnace system had it been at all practicable.

Finally, however, it was decided to use a hot water system with Honeywell generators and the plans as laid out and shown were figured for this as follows:

Assuming the outside temperature at zero and to maintain inside temperature of 70 degrees with a boiler temperature of 180 degrees.

The cubic contents were multiplied by 1.4.

The square feet of glass were multiplied by 75.

The square feet of exposed wall were multiplied by 25.

The results thus obtained were added together and divided by 160, the result being the number of square feet of direct radiation required to heat the room

For example, take the Servants' Hall on the First Floor (Fig. 2), a room approximately 12 ft. by 14 ft. by 9 ft. high.

12 x 14 x 9 equals 1,602.

1,602 x 1.4 equals 2,242.

Glass (2 windows), 3 ft. x 6 ft. x 2 equals 36 square feet.

36 x 75 equals 2,700.

Exposed wall equals 14 ft. x 10 ft., or 140 square feet.

140 x 25 equals 3,500.

Then 2,242 plus 2,700 plus 3,500 equals 8,442.

8,442 divided by 160 equals 52.

Therefore 52 square feet is the amount of radiating surface required.

In this case a 3-column radiator, 22 inches high, and containing enough sections to equal 52 square feet, was adopted.

The house was divided into two units, each independent of the other and having a separate boiler but the boilers were not to be cross-connected although this was desired at first. The design of the residence lends itself very nicely to having the Servants' portion of the house on one boiler while the Master's portion is entirely separate from the rest.

After adding up the radiation in each part and allowing for the pipe loss, 40 per cent was added to get the rating of the boiler required.

Fig. 1 shows the basement plan with all the piping and with the various sizes marked; it will be noted that the boilers are placed in the center of the house, but unfortunately are at the end of each system; this could not be avoided, owing to the fact that the residence is built on solid rock and the coal bins had to be placed in the only available position; naturally the location of the boilers depended considerably and perhaps, almost entirely, upon this fact.

At most of the places the branch connections are either marked "A" or "B"—the "A" connection is shown in Fig. 5 and is used wherever first floor radiator branches are joined to the mains; it is made by the use of two nipples and two 45 degree ells.

The connection marked "B" is shown in Fig. 6, and is used wherever a reduction occurs in the mains; its duty being to relieve the air from the mains at this point, through the nearest first floor radiator.

Wherever a reduction occurs in the mains the branches to a first floor radiator should always be so connected. Riser branches should never be connected at these points.

To explain one of the unusual phases of this heating system which occurs in some places, one being in the passage or driveway between the house and garage, near the circle marked 14, the steam and return lines had to raise up 18 inches in order to come up and clear arch of driveway; then again just where it enters garage it raises again about 12 inches; then just before the lines reach the first 72 sq. ft. radiators the two lines drop about 18 inches in order to run on the ceiling of the garage and clear the beams running across; also all the radiators of the garage are placed on the ceiling—now this causes a pocket in the return, for air returning from radiators in the garage the return line has to raise about 18 inches and then drop in two places. To remedy this an expedient was adopted as shown in Fig. 7, which clearly indicates how this air pocket is taken care of. It should be remembered that there are generators con-

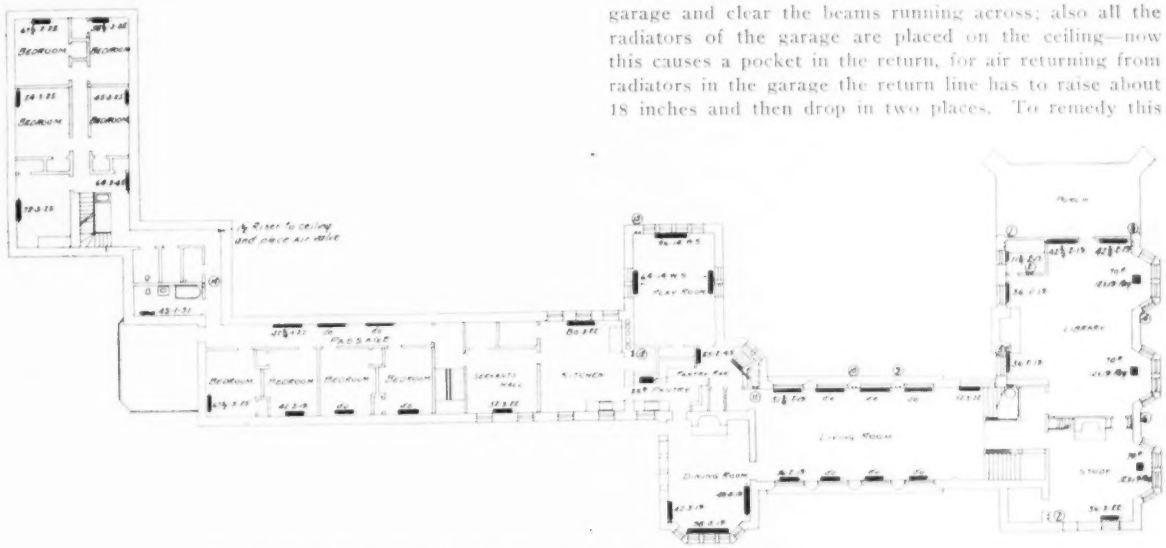


Fig. 2—First Floor Plan of Hot-Water Heating System in the Putnam Residence.

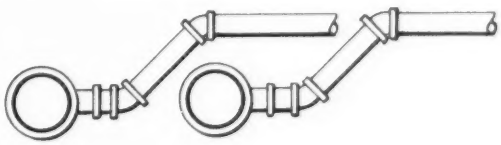


Fig. 5—Style "A" Connection.

Fig. 6—Style "B" Connection.

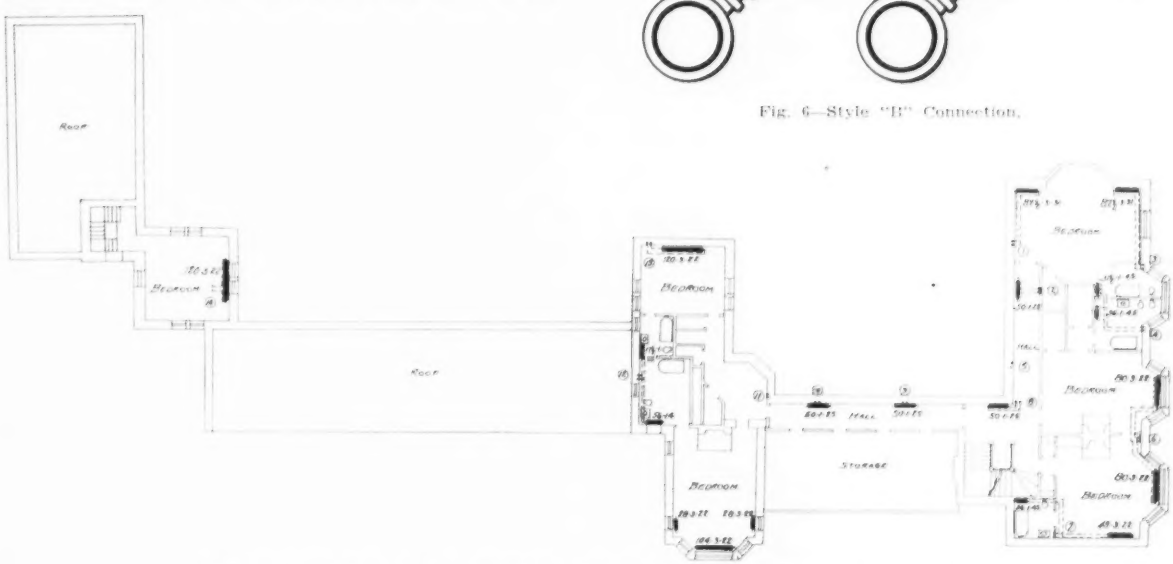


Fig. 3—Second Floor Plan of Hot-Water Heating System in the Putnam Residence.

nected up to the returns which accelerate the flow of water and which tend to drive the air before it out through the relief as shown. Fig. 7 shows only the return line but the supply pipe runs parallel with it and is treated in a similar manner.

This same difficulty occurred at the main driveway and also at the stairs near the fartherest wing of the Master's portion being taken care of in the same manner at each of these locations.

Fig. 7—A Pocket in the Return Line.

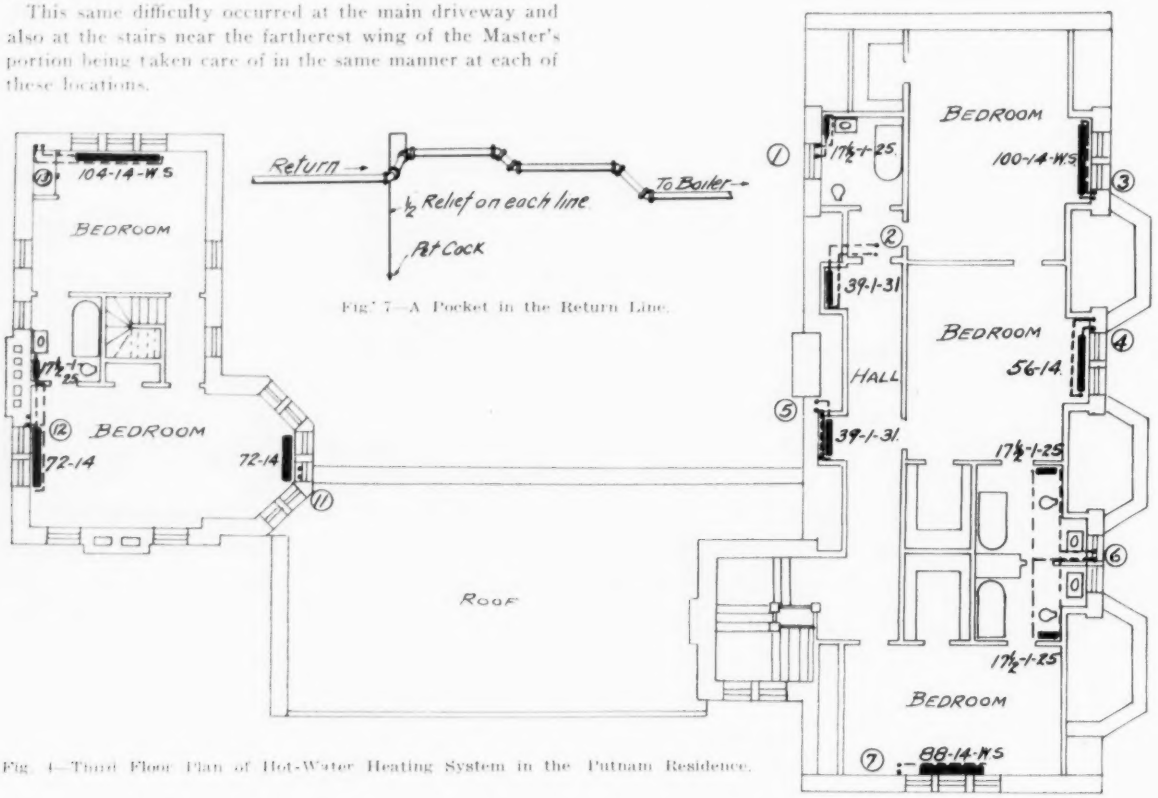


Fig. 4—Third Floor Plan of Hot-Water Heating System in the Putnam Residence.

Fig. 2 shows the first floor plan with the sizes and location of all the radiators—it will be noted that in the library there are placed registers with indirect radiators located below them; this is done so that the wall space could be utilized for book cases and book shelves.

In the living room there are four radiators of 51½ sq. ft. each, placed on one side of the room, while on the other the radiators are only 36 sq. ft. It will readily be understood that this is done owing to the fact that one wall is more exposed than the other.

In the passageway between the garage there was no room for a radiator so it necessitated running an 1½ in. riser to heat the passageway.

Figs. 3 and 4 show the second and third floors, respectively, of the residence with all the radiator sizes marked as shown. To read these markings such as "80—3—22" means that the radiator contains "80 sq. ft., is a three-column pattern, and 22 inches high." Fig. 8 is the riser diagram, showing what surface each riser carries and the size of same. It may be of interest to the reader to note how the various connections are taken off.

In figuring the radiation of this house the fact that there were chimney fire places was not considered as it was thought that in actual use they are likely to be a waste of heat as they are an additional source of warmth.

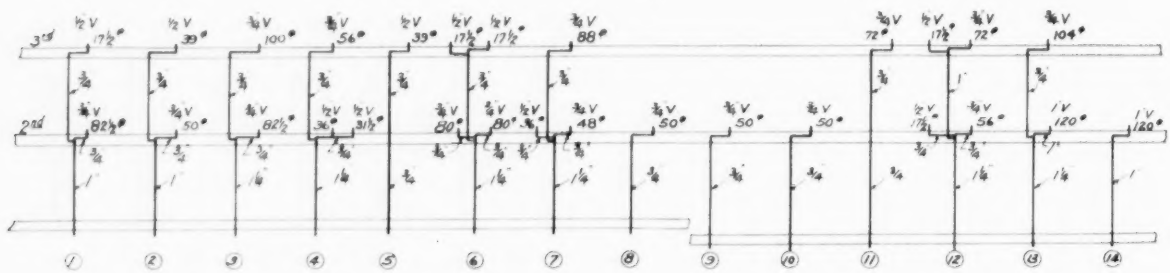


Fig. 8—Riser Diagram of Hot-Water Heating System in the Putnam Residence.

The radiators were all plain make with nickel plated valves and return elbows.

The expansion tanks were placed in the highest portion of the house and all the piping is of black wrought iron with black steam cast iron fittings. All the basement piping is covered with hair felt, securely wrapped and fastened on with canvas duck.

Little Sidelights on Men in the Trade

He Used to Go Plumming on the Farm

STRANGE things transpire on this mundane sphere. Men are not altogether the architects of their own fortunes. It would appear that the blind forces of chance enter into the destinies of individuals.

Men are often the creatures of circumstance. In this category of chance we can recall the names of famous personages—emperors, kings, presidents, and others of their caliber.

The early life of Benjamin Franklin was a notable instance of the freakishness of circumstance. History relates that he was tramping down a street in Philadelphia in search of employment. Poor Ben, then an ungainly youth with a dilapidated suit of clothes, and with a loaf of bread protruding from each pocket, attracted the attention of the daughter of a wealthy printer. She stood in the doorway of her father's home and laughed heartily at young Franklin. To her maiden mind Ben Franklin was indeed a funny looking object. A few years later they were formally introduced to each other. The introduction led to mutual admiration, developing finally into matrimony. Little did Franklin or the girl dream that they were destined for one another on the day that Ben passed her house with the bread in his pockets.

Similarly we recall to mind an equally freakish proposition. We know a master plumber who fully expected to become a farmer, but was rescued from so delightful a fate, by the timely appearance of a plumber who was looking for a helper. The plumber was walking down Broadway in Council Bluffs, Ia. He was very hard up for the services of a helper. He had been looking high and low for an assistant in the shop, but all of a sudden, so to speak, his eye fell on a stocky and muscular looking youth who was also walking down Broadway. Here was a chap, who, it appeared, would fill the bill as a helper most admirably. The plumber, who was none other than J. C. Bixby, now of Omaha, stepped briskly up to the young man:

"Here, my boy, do you want a chance to learn a good trade?"

"What sort of work?" queried the boy.

"Helping a plumber."

"Oh, I can do that, nothing to it."

"Where did you get your experience?" asked Bixby.

"Well, you see, I used to go plumming on the farm every fall. I used to be able to pick pecks and pecks of plums," declared the boy with a strong note of confidence in his voice.

"What is your name?" asked Bixby.

John Morrissey, of Omaha, Neb.

"My name is John Morrissey," replied the lad. "I'm working for a milkman now, and before that I worked for a gardener."

Bixby took young Morrissey over to the shop to show him the difference between plumming and plumbing. He showed him the different pipes and tools a plumber must work with, and explained other fine points about the craft.

John M. told Bixby that he would very likely take the job. He would let him know in the morning. He then had a little conference with his employer—the milkman—who promptly told him that plumbing was a very good trade for a boy to learn.

Young Morrissey started right in then to learn the plumbing business about the year 1883, with Bixby as his employer. He remained with him until he was capable of going out with the tools. In 1885 he went to Chicago for a year, securing work with J. J. Wade, under whose instructions he worked. Wade assisted him in every way in acquiring many points about the plumbing game. Mr. Wade treated him pretty nigh like a father.

In 1886 Morrissey went to work as a journeyman at Oconomowoc, Wis., where he was employed on a hotel job for a short time. Then he came west to Omaha, Neb. Here he worked as a journeyman plumber for a number of years, taking trips at times to accept employment in other cities in nearby states.

Morrissey went into the plumbing business for himself in 1895, opening a shop at Omaha, which he is now conducting at 2612 North 16th Street, under the name of the Omaha Plumbing & Heating Co. He was one of the organizers of the local master plumbers' association in 1909, at which time he was elected vice-president, serving two terms. During 1912-1913 he held the office of president of the Omaha local. He was elected a delegate to the national convention last year. As an association man he is a live booster, and a credit to the organization.

Once a year Morrissey closes up shop for a little spell, and makes for his cozy summer cottage at King's Lake, some twenty-five miles from Omaha. Being a great automobile enthusiast, he cranks up his trusty Ford, packs a few camping utensils into the machine, and with his sister and niece, he proceeds to make the run to the region where wild flowers grow and where the fishing is good.

Mr. Morrissey is today one of the successful and highly esteemed men in the trade in Nebraska. He is the type of man that you can't help liking. He is true blue—a man of noble character who practices what he preaches, and who deserves to be called—Honest John Morrissey.

Local Venting of Plumbing *vs.* Safety First

A Detailed Reply to H. B. Leach's Article on Local Ventilation, Published in the September 12th Issue*

By IRA A. MANN

IN the issue of Sept. 12, 1914, was published an article by H. B. Leach in answer to my ideas regarding the local venting of plumbing fixtures.

I wish to thank Mr. Leach for his reply to my article, as my idea in opening this subject was to bring forth a discussion that would be of benefit to the plumber and the public at large. In making a reply to his statements, I have referred directly to several paragraphs in his article.

Regarding Fourth Paragraph.

The object of a water-flushed closet or urinal is to remove the fecal matter from the premises. It is not intended to remove a portion of it, *but all.*

It is admitted that the local vents on closets allow a portion of the feces to remain in these openings. If this is true, the fixture is not performing the work it is intended to do.

It is also admitted that a forced draught must be provided to prevent the germs being carried back into the room. I would like to ask if anyone ever saw a vent fan that did not stop occasionally. If it stops it is going to cause a reverse of currents and return these particles of dried feces into the room. If these vents are connected to an ordinary chimney or flue the change in temperature and humidity in the air will cause a reversal of the draughts daily.

It is claimed that wall registers are nearly as expensive as local vented fixtures. Let us examine this and see if the statement is correct.

I find the list price of 12x18-inch black japanned register face plate to be $3.90, list. The free area of this register is 144 square inches.

If the room requires this number of square inches to insure proper ventilation it would be necessary to install closets with the greater number of square inches in the vents, as the friction would be increased and the draught of air retarded by breaking the area up into smaller units.

To allow for this friction, we will assume that the combined area of the local vents should equal 168 square inches.

The very best raised rear vent bowls have an area of about 12 square inches. This means that it will require 14 closets with 12 square inches each of local vent opening to equal the area of a 12x18-inch register.

I inquired the price of these bowls, both with and without local vents, and find the increased cost of local vented bowls to the consumer to be $12, each.

The added cost on 14 bowls at $12 each would amount to $168.

We will suppose this 12x18-inch register should be located in the wall at one corner of the room over the closets. If we abandon the register and use local vents it will be necessary to make a separate galvanized pipe connection to each fixture.

If we set the closets 3 feet on center across each end of the room, it will require 67 feet of horizontal galvanized duct with elbows and drops to the level of the closets. The estimated cost of this pipe and labor installed in a city by union labor is $136.

This brings our total net increase in cost up to $304.

We will assume that the 14 closets are set against a concrete or brick wall in the basement. To conceal the galvanized iron vent duct it will be necessary to erect a hollow tile partition along two ends and one side of the toilet room. If the room is 10 feet high it will mean that we have 660 square feet of partition or furring. Estimating this partition at 16 cents per square foot erected, we add $105.60 to our cost of $304, making a total of $409.60 additional cost for local vents on 14 closets, or a net increase of $29.26 for each closet.

The usual retail price on a plain syphon jet closet to the consumer is $15 each. A local vented closet bowl would cost the owner $43.98, or nearly 200 per cent increase.

In erecting this partition to cover the vent duct back of the closets it is necessary to set it out in the room at least one foot. In this way we waste 67 square feet of floor space. Some of our buildings in the larger cities rent for $3 per square foot per year. This means that we are entering into a perpetual contract to pay $201 per year for the wasted floor space. (See Fig. 1, plan of toilet room.)

If one will take the trouble to visit the men's toilet room in the basement of the Fort Pitt Hotel, Pittsburgh, he will find the ventilation is effective and the air is pure and sweet at all times without local vents or this needless waste of money. This is not fancy—it is a fact that the room is well ventilated by means of wall registers.

This added cost of $409.60 on 14 closets may not mean much to some persons, but some property owners look at these items as amounting to considerable. How would I feel to tell these owners that it is absolutely necessary to spend this money for local vents and have them refer me to the toilet room in the hotel mentioned above, or to 1,000 more of the same kind in this or any other city?

I cannot recall a single instance where local vented plumbing fixtures are used in our modern hotels and the majority of public toilet rooms are located in the basements of hotels where there is no possibility of air from the windows.

Regarding Fifth Paragraph.

Would the advocated system of local vents prevent the harmless dust that gets into the register from entering the local vent ducts?

It looks to me as though we would have the same dust in the local vents plus the particles of dried fecal matter, which it is admitted will splash into these local vent openings.

I agree with the writer that the odors emitted from the body or arising from the ordure, are repulsive, and I know that these odors are entirely removed from our most elaborate public toilet rooms, without annoying anyone, by placing ventilating registers in the wall or ceiling.

Regarding Sixth Paragraph.

I would like to ask any well-informed physician if he would live near a building that has local vents and have

*"Domestic Engineering" will be glad to receive additional comments on this question from any of its readers.—Editor.

these small particles of dried fecal matter containing tubercle or typhoid bacilli blown into his home from one of the vent ducts?

What authority is there to prove the particles of dried feces to be harmless?

How long will bacteria live in the open air?

If bacteria are not dangerous there must be some authentic works on the subject that could be quoted.

Regarding the gases emitted from a soil pipe vent. In

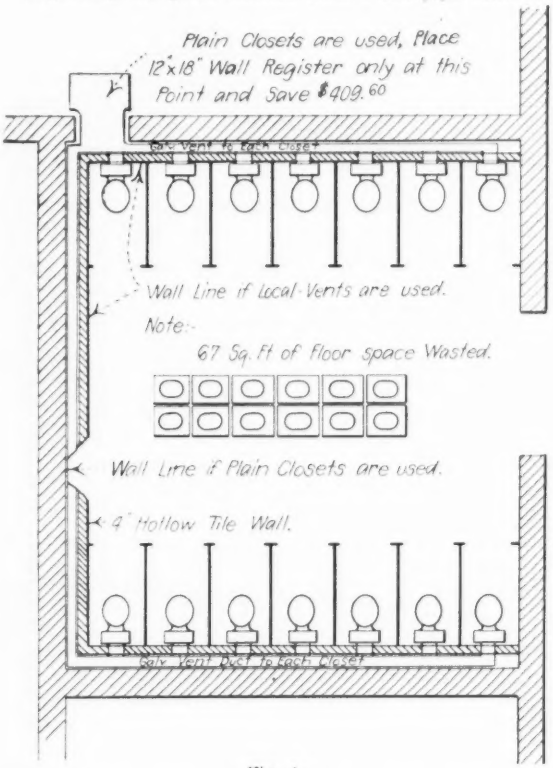

Plain Closets are used, Place
12"x18" Wall Register only at this
Point and Save $409.60
Wall Line if Local Vents are used.
Note:-
67 Sq. Ft of Floor space Wasted.
Wall Line if Plain Closets are used.
4" Hollow Tile Wall.

Fig. 1.

Plan for Ladies' Toilet Room, with Local Vented Closet Bowls.

the first place, this pipe is an absolute necessity to plumbing; on the other hand, I can prove that the local vent is not a necessity. We cannot dispense with the soil vent; we have no use for the local vent.

Now, let us see about the gases emitted from these soil vents containing bacteria. The best works I can find on this subject claim that sewer gas is a chemical product of decomposition and is composed chiefly of carbon dioxide, sulphurated hydrogen and methane. According to my knowledge of chemistry, there is no bacteria in any of these products. Sanitary engineers have found that by exhausting these gases into the air they are soon diffused with the oxygen and either destroyed or rendered harmless. It would be impossible for a particle of the slime or ordure on the inside of a soil vent or a re-vent to be blown out into the air while the building is in use.

In the first place, there is never any violent movement of air in the vent pipes to dislodge this decomposing matter.

If the fresh-air inlet is open the movement of air will be down as well as up, according to the temperature or humidity of the air the same as in a local vent. To guard against these vents working down, the City of New York adopted a fresh-air inlet with a mechanical device to prevent the foul odors being blown into the street.

If the slime on the inside of the pipes should become dry and dislodged while the current of air was downward, particles of the same would fall or be carried down into the soil pipe or sewer and away from the premises. On the other hand, it would practically be impossible for this slime to become dry when the air in the vent is moving upwards, as there is always more or less vapor arising that keeps the inside of the vents damp at all times.

If one will take the trouble to read the proceedings of the American Society of Sanitary Engineering, recently held in Minneapolis, they will note that reference is made to frost closures of vent pipes. This frost closure is caused by the vapor freezing at the mouth of the pipe.

Did anyone ever hear of dust freezing and closing a pipe?

Did anyone ever hear of dust forming in a pipe that is filled with a damp vapor that will freeze?

In the fourth paragraph reference is made to a forced draught. Did one ever hear of a forced draught in a soil pipe?

Referring to Seventh Paragraph.

I am glad the writer does not believe in local venting closets directly into a utility corridor, as by so doing a greater number of mechanics can come in contact with the ordure that is splashed directly into the corridor.

On the other hand, how could one expect to smell the odor that is on the inside of the galvanized duct?

However, it is admitted that the particles of ordure are in this duct and can be blown out into the street or returned into the room.

Referring to Eighth Paragraph.

I would like to ask if the local vented fixture prevents the splashing feces from adhering to the bowl at a point where it cannot be flushed.

Would a local vent prevent these particles of excrement from being blown about the room?

I have never seen a local vent where the draught would affect the flame of a lighted match held 6 inches away from the opening.

Does one expect a sluggish draught of this kind to reach up and grab a particle of the dried excrement and draw it into the opening?

If it did, it might carry this particle out through the vent and deposit it in the food we are eating in the restaurant adjoining this building where the local vents are used.

The writer admits that the particles of dried feces drawn into the vent may be laden with typhoid bacillus.

The City of New York has just spent millions of dollars to safeguard the public from typhoid germs by giving them pure drinking water.

Then what is the use of offsetting this work by blowing particles of dried excreta in the air? How can we tell where these particles of excrement may be deposited? Who can tell how long the bacteria in these particles of dust will live?

Now, what happens to particles of filth that gets onto the sides of a plain plumbing fixture in any well-kept house or building? If a housekeeper allows these particles of excrement to dry on our closet bowls, they are surely neglecting their duties. If I stopped at a hotel that allowed this to happen, I would think the management was neglecting its duty. This is true of a railroad station, an office building or any building where plumbing goods are installed.

We often find it necessary to have the dust cleaned out

of our watches. If one thinks he can rely upon a local vent to clean the dust out of or from a plumbing fixture, he will certainly be disappointed. On the other hand, the local vent makes an inaccessible hole or pocket that is impossible to clean. The filth is splashed into the opening and must lie there and decompose. This decomposition is the source of bad odors and when the filth is dried and becomes odorless, the dust is a menace to the general health.

We can remove the filth from a fixture that is made plain and with as few parts as possible, but it is impossible to remove the excrement from the inside of a local vented plumbing fixture. This opening is on the house side of the trap and is nothing more or less than fouling space and the fouling space is what we are trying to eliminate in modern plumbing.

Referring to Ninth Paragraph.

The Golden Rule should be to eliminate all unnecessary expense so as to reduce the cost of plumbing and bring it within reach of all. There should be a universal law that all plumbing fixtures be constructed without any concealed opening on the house side of the trap.

It is admitted that particles of the excrement can splash into the vent openings. This makes the opening fouling space. Any fouling space of this kind should be treated the same as a soil pipe.

Our plumbing laws require that all vents be taken from the crown of the trap, as that is the only safe place to connect any vent pipe. Our plumbing codes say that no chimney-flue or sheet metal duct shall be used as a vent pipe. Still, the advocates of local vents violate this section of our laws, daily, as the local vents are nothing more or less than soil vents.

The scientific way to ventilate a toilet room or any other room, is to turn the matter over to a competent ventilating engineer, who can properly proportion the sizes of the vent ducts and openings to provide a sufficient quantity of pure air in the room, and at the same time, remove the foul odors and gases from a point where there is no danger of collecting a particle of fecal matter.

Referring to Tenth Paragraph.

Our modern solid white porcelain and vitreous china stall urinals, our lipped wall urinals and modern pedestal urinals can be, and are flushed, over every portion of the surface where the urine comes in contact with the bowl. The majority of sanitary fixtures are made in one piece with integral trap. If through carelessness or accident, a portion of the urine splashes on the outside of the fixture it is easily wiped off and cleaned.

I will admit that the urine dries, but it will not dry and become dust in a period of 24 hours, except under extraordinary conditions. Again, when this urine is dried to a dust it does not give off an offensive odor.

The offensive odor which one is trying to remove by local vents does not and cannot contain bacteria. It does not arise from dry urine, but is the gas emitted during the process of decomposition.

If attention is given to the proper kind of urinals there will be no odor in the toilet rooms from the decomposing urine and no necessity for local vents.

I recently saw a water closet in a country railroad station where the filth was piled several inches on top of the seat and bowl, the urinal was also in a filthy condition, and with the window open it was impossible to remain in the toilet room on account of the bad odor.

Cases of this kind do not argue for or against local venting, but go to prove that plumbing fixtures need to be cleaned and kept in a sanitary condition.

If this glass back (so-called urinal) the writer mentions as being filthy, had been made of separate units and these units wiped off daily there would be no offensive odors and no dry particles of the urine flying around in the air.

I would also like to ask if the several wall registers mentioned were connected to a forced draught vent duct, or was the vent duct even open? If the wall registers failed to remove the foul odors, would a local vented urinal (which has added fouling space) be any more effective under the same conditions?

How would this urine dry on the back wall if it was continually flushed with water?

Did anyone ever see a plumbing fixture that did not soil and discolor even if it is well flushed with pure water? There are always a greater or smaller number of solids in water and urine. These solids are constantly accumulating and adhere to any surface and must be removed by hand.

Referring to Thirteenth Paragraph.

I am surprised that one in this age of sanitary appliances should refer to a urinal like the one shown in the sketch.

This sketch is simply a modification of the old Smead-Wills urinal which was condemned and discarded by law in all cities years ago. I do not believe there is a plumbing law or inspector that would allow a urinal of this type to be used in any city today.

According to my idea of modern sanitation the object is to remove all waste matter (of whatever nature it may be) from the premises. I have never heard anyone advance the idea of constructing a space back of a fixture as a reception room for pathogenic germs.

Plumbers, sanitary engineers and manufacturers have worked hard and long to bring out a line of up-to-date plumbing fixtures, and I believe the writer could have referred to a more sanitary fixture than this Smead-Wills urinal in advancing his idea of local vents.

I never saw this particular urinal, but the cut looks as though it was made from cast iron. If so, it will rust easily and be more difficult to keep clean than slate or glass. If it is made from enameled iron, the uric acid will soon destroy the enamel and then it will be no better than the plain metal. Some of the largest manufacturers of enameled iron goods refuse to make or sell enameled iron for any purpose where it can be used as a urinal.

Replying to Fourteenth Paragraph.

I do not know of any plumbing code that allows the installation of a urinal made from slate or glass, or any other material, with water flowing over the slab. I challenge anyone to show me a sanitary installation of this kind. All fixtures should have separate flushing rims.

In reply to the conclusions drawn by the writer I would like to state—

1st. I can prove that wall registers do properly ventilate (even underground) toilet rooms. I can prove wall registers quickly remove offensive odors and a fresh supply of pure air and oxygen is admitted to the rooms. It is the amount of oxygen and the absence of bacteria in the room that determines the sanitary condition.

2nd. The same system of piping will not answer, for if we wish to have a local vent we must connect a pipe to each fixture separately. This is a self evident fact and needs no proof.

3rd. I do not believe there is a pottery today that carries a stock of local vented bowls. I have visited a great many sanitary potteries and I never

noticed a ware-room fitted with local vented bowls. Suppose they do stock them, the pottery may be a thousand miles from the city where the bowl is needed for repairs. How long will it require to replace a broken bowl if this is the case?

4th. I can prove that local vents are not necessary. I can prove to anyone the air is best in the toilet rooms ventilated by registers. This is partially due to the fact that the regular venting system is done under the supervision of a competent engineer who can proportion his system to meet the requirements.

It is also partially due to the fact that there are no concealed openings to hold putrefying matter on the house side of the trap.

I can also prove by high medical authority that the excrement does splash into the local vents.

I can prove by published works by eminent physicians that the fecal matter contains pathogenic germs.

I can prove that as long as these particles of filth are in the ducts they are a menace to the health of mankind.

5th. I can prove that the system of local vents is expensive and that it is not a benefit, but a detriment, as there are fewer offensive odors in the toilet rooms ventilated by competent engineers using wall or ceiling registers.

I can show any interested person the toilet rooms in four public buildings—three of these rooms are vented by registers and plain plumbing fixtures are used, and one of the rooms is vented by means of local vented plumbing fixtures. *The one with local vents is the only one that has the smell of sour urine and the only one of the four rooms that use deodorizers to overcome the bad smell.*

In conclusion, I wish to ask all interested in sanitation to consider the effect upon the general public of advising the use of unnecessary and expensive parts of plumbing.

We are all familiar with the saying, "We can fool all of the people some of the time, some of the people all the time, but we cannot fool all the people all the time." If we will note the editorials that are appearing from time to time in medical journals and in architectural papers, we must admit that there is a strong sentiment against the high cost of plumbing. Some of these parties believe they are being fooled.

We are living in a practical age and regardless of what you or I may *believe* we will eventually come in contact with the man that *knows*. It is this practical man that demands plumbing be simplified.

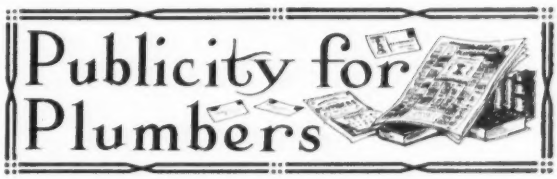
Will those really interested in conserving the public health meet this demand and abolish the unnecessary and foolish part of plumbing and endeavor to convince the public that we have their interests at heart, or will we continue to sell them "gold bricks" and turn a deaf ear to the cry of "stop thief"?

Plumbing is as much of a science as mathematics. We cannot speculate about mathematics and we cannot forever speculate about the method of doing plumbing.

We can save money for the public and safeguard their health by demanding that all openings on the house side of plumbing fixtures be eliminated, by observing the clause in our plumbing codes that no chimney or sheet metal pipe be used as a vent, and all vents must be connected as near to the crown of the trap as possible.

The local venting of plumbing fixtures does not benefit the plumbing business in the least and it does not benefit the legitimate manufacturer of sanitary plumbing material (potteries tell me that the loss in making these local vents exceed any profit they can make on the goods).

Would it not be wisdom on our part to endeavor to put a stop to this unnecessary practice, and in so doing, show the public that we are not endeavoring to rob them, but stand ready at all times to protect their interests and, at the same time, safeguard their health?



War Pictures in Your Window.

During the reign of popular interest in the conflict which is now raging in Europe, war photos, are pretty eagerly studied by the public. Many stores have adopted a daily policy of posting these pictures in their show windows, and they have found this policy has "made good" as a public medium.

Practically every hour during the day, groups of pedestrians will pause to view these pictures, while at the same time they will incidentally notice the store's display of goods.

Master plumbers and fitters, who have attractive displays of sanitary goods in their windows, would do well to follow the example of other lines of business apropos the posting of war pictures in store windows. Pictures of this kind may be obtained from some pictorial press syndicate or can be cut from periodicals and newspapers. Where pictures are not to be had to any large extent, it is a good policy to post a page of your local newspaper containing the latest war bulletins in your window. Take advantage of this opportunity to attract the people of your neighborhood to your display of sanitary plumbing goods, bearing in mind always, that publicity is a good thing, and that it acquaints people with the fact that you are conducting an up-to-date plumbing shop, and ready to act at any time as the preserver and conserver of the public health through modern sanitary plumbing installations.

WAR IN THE U-RO-PEAN BATHROOM.

"My helper, Dan Hogan, sees everything in terms of plumbing," said the master plumber. "When he sees a clean-cut man with a clean collar and a clean shirt, he says, that chap has an O. K. sanitary code. If he hears a man deliver himself of bright and witty saying, he refers to him as having his think-tank very well installed. And if he feels angered at somebody, he declares that he would like to do a job of overhauling on his roof-garden or break one of his face fixtures.

"The other day while eating his lunch in the shop he delivered himself of a few choice observations on the war in Europe, and this was what he said:

"That Servian overflow in the u-ro-pean bathroom has brought too many plumbers on the job. Too many of 'em figured on the job of fixing that leak, and the whole gang of 'em are wading in the trenches, hammering on that leaky pipe and making the leak worse every minute. Why, Gee Whiz, one level-headed plumber, or maybe two, could have got together and repaired that overflow very nicely. Two heads are better than one, but a dozen heads on one job is worse than none at all.'"

W. H. B.

Questions and Answers

WILL THIS STEAM HEATING JOB PROVE SATISTORY?

Editor "Domestic Engineering": The accompanying rough sketch (Fig. 1) shows a layout of a steam heating job which I am about to install. I would like to have you look it over and see if it will work right, before I start installing it.

I am not certain about the size of the steam main, because coils and not radiators are to be used. I had planned to run 2½-in. mains to the first drip, as marked on the sketch, at which point a slight raise is made with a 45-degree, 2-inch connection. From there it is lowered to the turn to the shoe store, where we drip again and then raise as shown. The reason for using coils is this, that the boiler has to be placed on the same floor which it is to heat. In the spring season there is always a flood around the building, and there is, therefore, no other place for the boiler.

The shelving and other office furniture prevent us from using wall radiation, and there are only eight feet to the ceiling. The pipes leading to the coil in the living room and the radiator on the second floor will be taken off the side of the main on account of the height of the main; the branches for the coils in the store will be taken

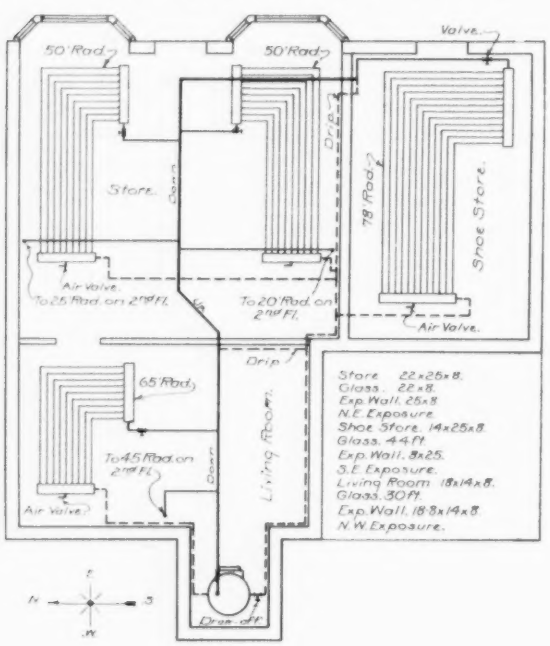


Fig. 1.

off in the same manner, and the three risers will drip back into the main. The drips from the coils will enter the return separately below the water line.

On the sketch you will note that I have marked on the headers where I intend to tap for air vents. Is this the proper way?

I also intend to use gate valves on each coil. I have figured 594 feet of 1¼-inch pipe for the four coils. How does this compare with the radiation figured? I have never done much coil work, and I am therefore not sure that this layout will prove satisfactory.

Lyons, N. Y. B. G. H.

The sketch submitted by correspondent is shown in Fig. 1, as well as we are able to interpret his drawing,

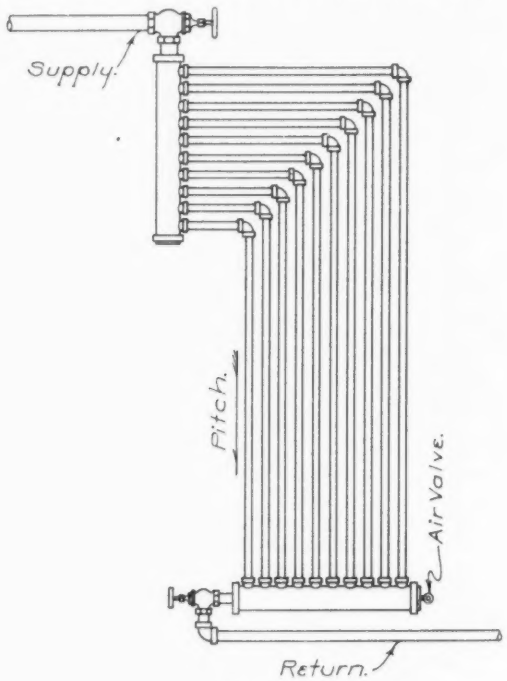


Fig. 2.

and illustrates a building containing two small stores and a living room to be heated.

Unfortunately the positions of windows and doors are not shown and we can only approximate their positions on the sketch.

Considering the cubical contents, exposed wall and glass surface from the data given we estimate that radiation is required as follows:

Store, 120 sq. ft.
Shoe Store, 46 sq. ft.
Living Room, 38 sq. ft.

as compared with correspondent's figures, which call for

100 sq. ft. in the store,
78 sq. ft. in the shoe store,
65 sq. ft. in the living room.

Local conditions or the character of the construction of the building may require the larger amounts figured for the shoe store and living room and also the reduction of the amount estimated for the larger store. It should also be considered that the amount of radiation required for heating by overhead coils is approximately 10 per cent greater than is required when the coils or radiating surfaces are placed as they should be, near the floor and along outside or exposed walls.

The contemplated size of main (2½ and 2-inch) is sufficient for the work although we advocate the continuance of the 2½-inch to the point where it is dripped and supplies the coil in the shoe store.

It is better to grade the main with a pitch toward each

drip and to take all branch connections off with a 45-degree connection in order that the condensation in the main will not enter the branches to coils. A close nipple and 45-degree elbow will not require much additional height.

In connecting to a mitre coil, hung horizontal, it is best to connect the supply at the end of the manifold where the longest pipe of the coil is connected, and the return should be taken from the end of manifold where the shortest pipe of the coil is connected. The full heating surface of the coil will then be available and will fill with steam before the steam reaches and closes the automatic air valve. The air valve may then be placed at the opposite end of the return manifold. Fig. 2 illustrates this method of making the connections.

Each lineal foot of 1¼-in. pipe in the coils equals .434 sq. ft. of radiating surface, and it requires 2.3 ft. of 1¼-in. pipe to equal a square foot of radiation. We figure that the amount of radiation in the coils shown by correspondent's sketch is 559 sq. ft., exclusive of the surface in the manifolds and connections.

The branches supplying the radiators on the second floor should be 1¼-in. and the risers or connections to these radiators should be 1-in. The riser out of boiler supplying the 2½-in. main should be at least 3 ins. in size, or if necessary two openings of the boiler may be used in order to increase the area of the supply and thus reduce the velocity of the steam in the vertical pipe or pipes.

There seems to be no reason why this job should not work well, provided the main is carefully graded and dripped and all drips and returns are connected below the water line.

THE PROPER KIND OF RADIATION FOR LOW-PRESSURE STEAM HEATING SYSTEM.

Editor "Domestic Engineering": Kindly tell me which style of radiation is best adapted for use on a one-pipe, low-pressure, gravity system of steam heating; whether steam or hot water radiation? I would like to know reason, if any, for the somewhat prevalent custom of specifying hot water radiation for steam work.

Bloomington, Ill. "Heater."

The ordinary type of steam radiation is considered to be as good for one-pipe steam as any other type of a radiator, provided a good make of automatic air vent is used.

The hot water type of radiation is very frequently specified on steam work by some engineers and heating contractors as they have formed an opinion that there is a better circulation through the radiator, and that the surfaces of the radiator are cleared of air better, than when a radiator of the ordinary steam type is employed.

We should say that for two-pipe steam heating, when the supply pipe can be connected at the top of one end and the return taken from the bottom of the opposite end, the hot water type of a radiator is preferable to any other, as the vapor or steam entering the top of a radiator forces the air downward and out of the air valve which is placed about one-quarter or one-third the height of the radiator at the return end. Some engineers have, as before stated, formed an idea that when steam is supplied to a hot water radiator at the lower, or regular supply tapping, it passes upward to the top of the radiator through the first loops or those nearest the valve, and, finding its way across the radiator through the top connection, forces the air downward, filling the radiator with steam more quickly than would be the case should the regular steam type of radiator be employed. We do not believe that this theory is correct, as we think that when the connections are made in this manner there is a tendency for the steam to strike and close the automatic air valve before all air has been exhausted from the radiator.

To sum up, we advise correspondent to use the regular type of a steam radiator for one-pipe steam work or the hot water type of a radiator for two-pipe steam work, and in the latter case to connect the supply at the top of the radiator.

WILL THIS HEATING SYSTEM WORK RIGHT?

Editor "Domestic Engineering": Will you please let me know through your "Question and Answers" column, if the hot water heating system, shown in Fig. 1, will give satisfaction or if any changes are required? There is no place to put an expansion tank except in the rooms,

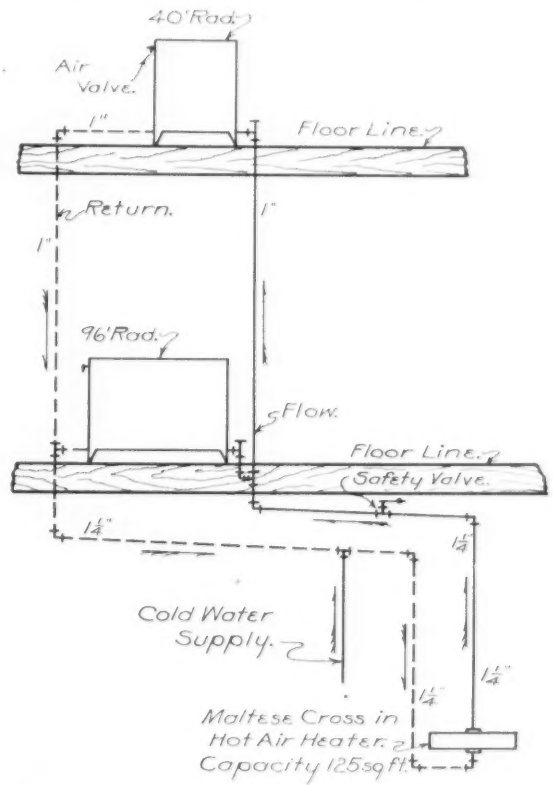


Fig. 1.

to which the owner objects. The water pressure is to be left on at all times.

I would also like to know the best way to figure the radiation required to heat a house. Is it the same for steam as for hot water?

Philadelphia, Pa. J. A. K.

The auxiliary hot water heating shown by sketch, Fig. 1, is correct with the exception of the method of connecting the radiators.

The connections to the lower radiator should be made from the top of the riser and the risers supplying the

upper radiator should be taken from the side outlet of tees placed on the risers to the lower radiator. Fig. 2 illustrates the method of making these connections.

We would also call attention to the fact that the rated

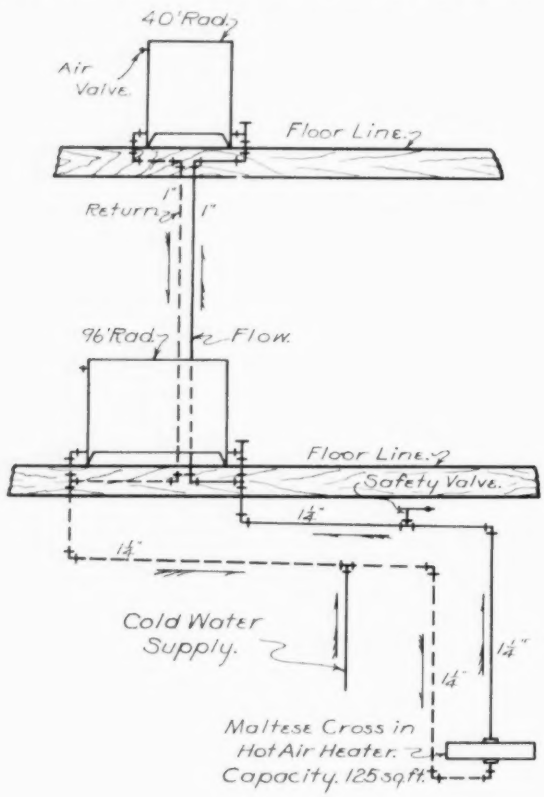


Fig. 2.

capacity of the Maltese cross (as given by correspondent) is 125 sq. ft., while the radiators connected contain 136 sq. ft. of radiation. On this basis the Maltese cross or auxiliary heater should be of larger capacity for the best service.

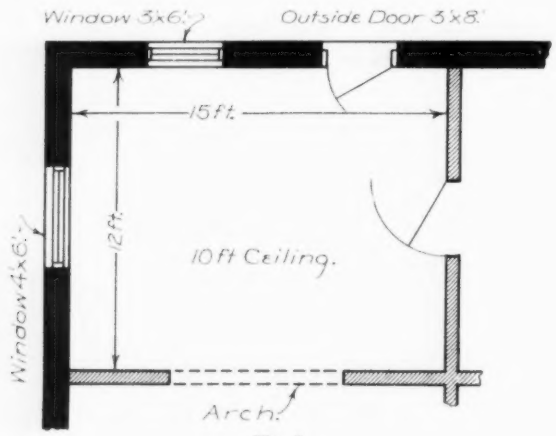


Fig. 3.

Regarding the best way to figure radiation required to heat a house will say there are numerous good and accurate rules which are used for this purpose. Any rule which makes proper allowances for exposed walls, exposed glass surface (outside windows and doors, which are counted as glass) will give fairly accurate results. A very popular rule is the Mills Rule, known as the rule 2—20—200. This rule requires 1 sq. ft. of radiation for for each 2 sq. ft. of glass surface. One sq. ft. of radiation for each 20 sq. ft. of outside wall exposure; and 1 sq. ft. of radiation for each 200 cu. ft. of contents.

As an example of the method of applying this rule, consider the corner room shown by Fig. 3. This room is 12 x 15 ft. in size with a 10-ft. ceiling, and has one window 4 x 6 ft., one window 3 x 6 ft. and an outside door with a transom, measuring 3 x 8 ft.

$12 \times 15 \times 10 = 1{,}800$ cu. ft. of contents.
$12 + 15 \times 10 = 270$ sq. ft. of wall exposure.
$4 \times 6 + 3 \times 6 + 3 \times 8 = 66$ sq. ft. of glass exposure.
$66 \div 2 = 33$
$270 \div 20 = 14$
$1{,}800 \div 200 = 9$

56 sq. ft. for steam.

For hot water 60 per cent should be added to this amount. Therefore, $56 + 60\% = 90$ sq. ft. for hot water.

In applying this rule fractions are omitted and amounts equaling more than ½ sq. ft. of radiation are counted as 1 sq. ft. We may say also that the wall exposure figured is the gross wall exposure; that is, the space occupied by outside windows and doors is not deducted from the wall exposure.

Correspondent will find this rule easy to apply and, as stated before, fairly accurate in results.

HOW DO YOU INVOICE YOUR TOOLS?

Editor "Domestic Engineering":—In answer to your subscriber's question, "How do you invoice your tools?" published in the August 15th issue of your valuable paper, I herewith give the method that I have used for a number of years, and which seems to work satisfactorily, as far as my business is concerned, same not being large, and which may be of some benefit to your subscriber.

In my ledger under the items: Furniture, Fixtures and Tools Account, I charge all new or additional fixtures or tools bought in the course of the year, and at the close of the year instead of taking inventory of same I charge the Profit and Loss account with 10 per cent of the value of my fixtures and tools as shown by the ledger at the time, thereby reducing their value the above 10 per cent, which I think is a fair depreciation allowance, and which works out about as follows:

If at the end of a year I have, let us say, furniture and tools valued at $500, and 10 per cent or $50 is allowed as depreciation for the year, the account is reduced to $450, to which is added any new tools bought during the year, and then another 10 per cent is taken off the total.

The above 10 per cent is figured as operating expense and is taken into consideration when estimating on work.

If any renewals for worn-out or broken parts are bought during the year such as dies, wheels for pipe cutters, hack saw blades, etc., which do not add value to the tools, such are charged to the operating or expense account direct.

Cincinnati, O. N. H. O.

F. A. Spencer, Council Bluffs, Ia., has moved his plumbing shop into his new building on North Main Street.

The Oscar Peterson Plumbing & Heating Co., of Seattle, Wash., has changed its name to the Peterson Hardware & Plumbing Co.

Rivalry Continues in Window Display Contest

Master Plumbers and Fitters, from Coast to Coast, Send Pictures of Window Exhibits in Race for Prizes

THIS is the fourth week of "Domestic Engineering's" Window Display Contest. Three weeks still remain until the 2nd of November, the date of the closing of the contest. Now is the opportune time to touch up your window in tip-top readiness for your local photographer to train his camera on. After he has finished his end of it, just wrap the finished product up and consign it to the care of Uncle Sam, who will in turn hand it over to us for our careful inspection.

If you have a camera of your own, even if it be only of postal-card size, do not for a moment hesitate about training it on your window display. A small photo is often quite as distinct and attractive as a large one taken by a professional in the picture game.

Make it a point to enter this contest by sending a picture of your display to "Domestic Engineering." There is opportunity here for a great many contestants—the more the merrier. So, fire away! Forward us the photo of the best window you had this year (or any other year for that matter). Also remember that you are invited to send in two or three or four pictures. Arrange a new display every week if you choose—it will mean that much more publicity for you, at any rate.

Photographs of window displays have been arriving by practically every mail since the opening of the contest. Many letters commending the contest idea have likewise been received by "Domestic Engineering." That it will be a close race in the final sprint for the capture of the prizes when the judges are called upon to select the winners, we have no reason to doubt, judging from the many fine photos of windows, which have come to our office, ranging from the rocky coast of Maine to the sunkissed shores of California.

One master plumber and fitter writing from Oregon, states, that on reading the announcement of the contest he put on his hat, and hiked over to a local paint store and purchased a can of white enamel paint with which to beautify his window.

"That window has been an eyesore to me for the past two years," he writes. "I just naturally never got around to dressing the thing up. In fact I forgot all about the need of a good window display until I was reminded of it, when I read 'Domestic Engineering' the other day. I have started to get busy on fixing up my window, and you will hear from me in a few days in the shape of a photograph of my display window."

YOU CAN WIN A $25.00 PRIZE

Mail Us a Photo of Your Display Window to be Entered in "Domestic Engineering's"

WINDOW DISPLAY CONTEST

1. The contest is open to all master plumbers and steamfitters who are paid up subscribers to "Domestic Engineering," at the time the photograph of the display is received.

2. The contest closes November 2nd, and the decision of three impartial judges will be announced on November 16th.

3. The prize for the best display window will be $25 in cash; the prize for the second best $15 in cash.

4. Photographs that receive honorable mention will be paid for at $1.00 each.

California Jobber Praises Contest Idea.

Editor "Domestic Engineering": Your editorial in connection with the opening announcement of "Domestic Engineering's" Window Display Contest, in the September 12th issue, "hits the nail on the head." And especially striking is the paragraph in the editorial in which you say: "No live merchant with window space would allow his displays to run down or look shabby. For he knows full well that a dilapidated window would repulse customers instead of attract them." While it is true that there are many fine displays in plumbing shop windows throughout the country, it is equally true that there are many poor displays, and in some shops none at all. The master plumber and fitter should always realize that he is essentially a business man and a merchant and on a level with other merchants in the community, and quite as important. Does the progressive hardware, dry-goods or grocery merchant neglect his display window opportunities? No, not so you can notice it.

A California Jobber.

"Biffing" the Bathtub.

The freak health reformer is again on the job. According to reports from Oklahoma, a certain doctor who hails from parts unknown has recently bobbed up in that state and "taken a shot" at the merits of the modern bathtub. One of the local newspapers of Shawnee, Okla., has the following comment apropos of the views of the learned doctor:

"It comes as a shock to the innumerable hosts who believe that 'cleanliness is akin to godliness,' when a medical gentleman who shall remain nameless, proclaims that the bathtub is insanitary. It was bad enough when the public drinking cup, the public towel, and other things of common usage were put under the ban, but the attack on that great institution, the bathtub, is the most outrageous of all the outrages that have been perpetrated by the health faddists. If it had happened in England, where the lord and master of the household would sooner do without his breakfast than his morning 'tub' there would be an outbreak as desperate as those in which the militant suffragettes figure, but as it is an American medical gentleman who makes the attack, his countrymen vent their fury in hurling epithets and jeers at him. It is lucky that the doctor lives in the U. S. A."

THE CANADIAN PLUMBER AND BUSINESS METHODS.

By P. W. Blair.

According to the report given out by the corresponding secretary of the Ontario Domestic Sanitary and Heating Engineers' Association of Canada, a number of locals were formed in various towns within the past year, and the members are fast beginning to realize that the best way to succeed, is to organize and meet each other on mutual grounds where all grievances can be discussed in a brotherly and business-like manner.

It is a significant indication that the master plumbers of Ontario are now working in the right direction and have decided to make an effort to improve their condition and incidentally increase their net earnings. It must be very apparent to many that the best that can be said of the plumbing situation in Canada for the the past few years, is that it has not progressed as rapidly as several other lines of business.

How many master plumbers are there, who are pushing the sale of guaranteed fixtures and goods of improved pattern and quality? Do the plumbers realize how they are allied to the commodities they represent; that is to say, that their charter and personality are judged by the class of goods in which they are dealing?

The master plumbers of Canada are beginning to realize that the public is becoming more enlightened regarding the quality of plumbing and heating goods used in modern dwelling installation, and that property owners now detest the cheap and shoddy material which flooded the market some years ago.

Competition is today very necessary to all branches of trade, but competition should never represent hostility. There should be rivalry, but never antagonism. Progress should be the watchword in the ranks of the craft, and we should earnestly strive for the success of all and the destruction of none. You can study the constitution and by-laws of your associations and you will find no clause that will dispute my statements.

To improve the plumbing profession in Canada we should seek to develop character and mental vigor, and strive to foster a standard of business morality, and to encourage the exchange of new ideas.

At no time should we fail to drive home the fact that we are entitled to a price which will cover overhead expenses. Unless we can do this, there is no justification for remaining in or trying to maintain a plumbing business.

A man who feels that unjust price competition is the only way to get business had better seek some other line of work than that of running a plumbing shop. The best that he can ever accomplish is a process of annihilation. How then is the square and honest plumber to compete with a competitor of this type? We all know that the persistent price-cutter soon becomes discredited in the business world, for such men only serve the purpose of cheapening the quality of goods.

Every value is lessened to meet these practices and the consumer suffers by receiving only a poor imitation of that which he supposed he was buying. No business offers greater inducements to its craftsmen to advance than the one in which we are engaged, nor does any other present so open a field for substitution by the unscrupulous.

The world at large has awakened to the importance of sanitation. Everywhere the public is alive to the benefits of improved sanitary conditions and appliances.

"How to figure profit." That is the one thing which every progressive master plumber and fittter should thoroughly understand, and I believe the Canadian men in the trade, have within the last few years given more attention to this all-important subject than any other aspect of their business. And the result has today enabled many plumbers to place their business on a higher plane.

PROPOSED REVISION OF NEW YORK CITY CODE.

The chairman of the Building Committee of New York City, Alderman Hamilton, has introduced an ordinance relating to plumbing, drainage, gas piping and other systems of piping in buildings, as part of the revision of the building code. The proposed ordinance authorizes the formulation of rules and regulations for gas piping and other piping the same as now governs plumbing and drainage systems. Provision is made that they shall not apply to existing work except where such work is reconstructed to the extent of more than 50 per cent or where vertical lines or house drains are installed. The cut-off valves now required for factories, hotels, churches, schoolhouses and other buildings of a public character, will, in the revised code, be required on all new buildings and on all existing buildings except residences for one or two families or those having not more than fifteen sleeping rooms.

The ordinance making it unlawful to use any new system of plumbing until the same has been properly tested and inspected by the Bureau of Buildings is made an integral part of the law.

Provision is made for separate toilet facilities in buildings where both sexes are employed or congregate for any purpose. This does not apply to toilet facilities for separate families in apartments and tenements or to the private toilets attached to individual rooms or suites.

It is also made unlawful to use any new system of gas-piping or an extension of an existing system until the same has been inspected and tested under the supervision of the Bureau of Buildings. This provision does not apply to existing systems unless there is reason to believe that defects exist which are dangerous to life or property.

The registration of master or employing plumbers now required by law is continued.

The enforcement of the ordinance is put under the jurisdiction of the Superintendent of Buildings of the several boroughs, except that when any of the systems after coming into use become a fire hazard they come under the supervision of the Fire Commissioner.

Section 141 of the present Building Code and a part of Section 8 of the same ordinance are repealed, together with such rules as may conflict with the provisions of the proposed ordinance.

REPORT ON COMFORT STATIONS.

The Bureau of Public Health and Hygiene of the New York Association for Improving the Condition of the Poor, 105 East 22d Street, New York City, has recently issued a social sanitary and economic survey of Comfort Stations in New York City, which will prove of great value to the health officers of the larger cities where this problem is a pressing one.

The directors of the recently incorporated Deming Cottage Sanatorium, Deming, N. M., have arranged to put in complete sewer and water piping systems in the sanatorium tract of twenty acres.

THIRTY-THREE MASTER PLUMBERS INDICTED AT ERIE, PA.

Thirty-three officials and members of the National Association of Master Plumbers were indicted by the Federal grand jury at Erie, Pa., on Monday afternoon, October 5th, charged with conspiracy in restraint of trade in violation of the Sherman anti-trust laws. Those indicted are: S. Louis Barnes, president of the National Association of Master Plumbers; D. F. Durkin, national secretary, and William McCoach, national treasurer, all of Philadelphia; M. C. Judd, of Meadville, Pa.; Frank J. Fee, New York City; B. Joseph O'Donnell, Syracuse; Alfred C. Eynon, Canton, O.; Thomas J. Dyer, Andrew Murphy, Ray J. Hillenbrand, John J. Vogelpohl and Edward H. Morgan, of Cincinnati; David H. Roberts, of Cleveland; Eb. Ellen, Cleveland; James A. Wood, Toledo; Charles W. Wilson, Youngstown; William Haas, Dayton; William A. Decker, Grand Rapids; Edmund Tate and S. S. White of Pittsburgh; Charles L. Titus and Harry L. Burd, Uniontown; Fenton T. Evans, Connellsville; David Mencehy, Altoona; O. G. Irvin, Altoona; Charles K. Will and George W. Gast, Lancaster; Charles W. Fisher and James H. Lutz, jr., Harrisburg; Richard Turner, Wilkes-Barre; L. Roy Hershey, Johnstown; Michael Purtill, Pittsburgh; and Frederick F. Fladd, Rochester, N. Y.

The case will be tried in the United States court at Pittsburgh, Pa., some time during the winter term.

Vincent J. Ahlmeyer has opened a new plumbing shop at 389 Grove Street, Jersey City, N. J.

L. S. Komoski has opened a plumbing and heating establishment at 772 Newark Avenue, Jersey City, N. J.

Casper Fisher & Sons is the name of a new plumbing establishment just opened at 455 South Sandusky Avenue, Bucyrus, O.

Chas. A. Changnon has opened a plumbing and heating business in Jersey City, N. J. He has a well-equipped shop at 47 Laidlaw Avenue.

John H. Gordon has engaged in the plumbing and heating business in Jersey City. He has a well equipped shop at 47 Laidlaw Avenue.

The Elizabethtown Heating Co., Elizabethtown, Ky., has been organized with a capital stock of $1,500. The incorporators are W. G. Montgomery, O. T. Trent, L. A. Faurest and J. M. Layman.

The Gordon Sanitary Plumbing Co., of Cleveland, O., has been organized with a capital of $10,000, to conduct a plumbing and heating business. Those interested in the venture are David Gordon, M. Zwek and B. Passen.

A new plumbing and heating concern has been organized to do business in Saranac, Mich., under the name of Jones & Gable. The co-partnership was formed by Glenn Jones, of Saranac, and Henry Gable, of Ionia, Mich.

John L. Naught, who formerly conducted a plumbing business at 2347 West 29th Place, Los Angeles, Cal., has purchased a half interest in the Douglas Plumbing and Tinning Co., 1239 G Avenue, Douglas, Ariz. Mr. Taylor and Mr. Naught will carry on the business of the firm under the same name and at the same address.

Galion, O.—H. C. Sponhauer & Son have been awarded the contract to install the plumbing and heating in the new Berry Block.

Plymouth, Wis.—Rohde Bros. have been awarded the contract for the plumbing and heating to be installed in the new public library.

Peru, Ind.—Charles Soames was awarded the contract for the plumbing and heating to be placed in the new library at Akron. Consideration, $987.

Nashville, Tenn.—Herbrick & Lawrence have been awarded the contract for the installation of plumbing, electrical wiring and conduit work in the new apartment houses being built at 120-122 Seventh Avenue, South.

Mankato, Minn.—C. M. Masters has been awarded, by the state board, the contract for the heating and ventilation systems for the new $100,000 Science building for the Moorhead Normal school. His bid for the work was $15,000.

Virginia, Minn.—The Virginia Plumbing & Heating Co. has been awarded the contract to install the plumbing and heating in the new high school at Melrose. Consideration, $13,000. This firm will also furnish the pumps and engines for the city power house at Melrose and install a central heating plant. The value of this contract is $7,000.

WELL DEFINED DISPLAY IN CANADIAN SHOP.

While sauntering about the city of Sarnia, Ont., waiting for his train some weeks ago, the editor of "Domestic Engineering" spied an assortment of plumbing fixtures, neatly and attractively arranged in a plumbing shop on

An Exceedingly Neat Window Display at Sarnia, Ontario.

one of the main streets. He forthwith leveled his camera at the establishment and "shot," producing the accompanying result. The shop is operated under the firm name of Goodwin & Co., and it is one of the many progressive and thriving plumbing and heating concerns in and around Sarnia.

Among the Wholesalers and Manufacturers

ARROW TOOL WORKS IN NEW LOCATION.

The Arrow Tool Works, 20 South Clinton Street, Chicago, has recently moved its shops and office to 31 North Jefferson Street, where the concern plans to operate on a more extensive scale.

FILES PETITION AGAINST BONNER MFG. CO.

An involuntary petition in bankruptcy was filed in the federal court at Danville, Ill., on Wednesday, October 7th, against the Bonner Mfg. Co., of Champaign, Ill. The company is capitalized at $350,000.

WILL MAUFACTURE HEATING GOODS.

The Serpentine Heater Manufacturing Co., of Marion, O., has been incorporated with a capital of $25,000, to manufacture heating goods. The incorporators are: J. Leo Shaw, J. D. King, F. E. Peters, C. A. Kuene and K. H. Marshall.

MOVE INTO LARGER OFFICES.

The Patterson-Kiser Seat Co., of Greensboro, N. C., has recently moved its offices to larger quarters in the Dixie Building, corner of South Elm and Sycamore Streets, in that city. Mr. Patterson, president of the company, who is touring the central west on business, spent several days in Chicago last week. He spoke optimistically of the industrial situation in the southland and looks forward to a very prosperous season of activity.

CENTRAL TRADE GOLF ASSOCIATION'S SPECIAL FALL TOURNAMENT.

The special fall tournament of the Central Trade Golf Association will be held at the Youghiogheny Country Club, McKeesport, Pa., on Tuesday, October 13th, according to the official announcement issued by the tournament committee. The players will be divided into two groups as follows: Class A, handicaps up to and including 15; Class B, handicaps 16 and above. The players will also be divided into flights of eight each, and paired at the tee. Players eliminated in the first round of match play will be put in special beaten fours. There will be prizes for winners in each flight and also prizes for winners in each beaten four. The course at the club grounds is in splendid condition and not at all difficult. The House and Greens Committee of the Club will see that the Association is properly entertained and an enjoyable time is assured. Those who plan to participate in this tournament are advised to take the B. & O. train from Pittsburgh at 8:10 a. m. or 12:10 p. m. to McKeesport. Scott Haven and Buena Vesta trolley cars running direct to the club, leave Locust Street and Fifth Avenue (B. & O. station), McKeesport, every 60 minutes on the hour. A special trolley will leave the club at 8:10 p. m., connecting with the B. & O. train at 8:55 from McKeesport, due in Pittsburgh at 9:30 p. m.

FORTY HEATING ENGINEERS ADMITTED TO MEMBERSHIP IN A. S. H. & V. E.

On a ballot of candidates for membership in the American Society of Heating and Ventilating Engineers the following forty gentlemen have just been elected, according to the official announcement issued by Secretary J. J. Blackmore:

Members.

Keach Bone, Petersburg, Ill.
Allen A. Blomfeldt, 108 North Jefferson Street, Chicago.
Fred S. Boltz, 129 Federal Street, Boston, Mass.
Edgar Allen Cline, 3212 E. 9th Street, Kansas City, Mo.
Michael J. Callahan, 333 W. 52nd Street, New York City.
D. W. Chapman, Canton, O.
Harry Wilmer Curry, Edgewater, N. J.
Benjamin H. Davis, 603 Main Street, Buffalo, N. Y.
Charles N. Dutton, 561 Mission Street, San Francisco, Cal.
Reuben E. Dockham, 204 North Street, Salem, Mass.
Walter Louis Fleisher, 31 Madison Avenue, New York City.
Michael J. Gibbons, jr., 20 W. Third Street, Dayton, O.
John C. Hornung, 111 W. Monroe Street, Chicago, Ill.
Ross C. Holley, North Tonawanda, N. Y.
Otto J. Kuenhold, Power Avenue, Cleveland, O.
Edwin A. McC. Kingsley, 345 W. 50th Street, New York City.
Joseph E. McClure, 8 Belmont Avenue, Dubuque, Ia.
Herbert M. McClure, 1101 Capitol Street, Harrisburg, Pa.
James Celestine Miles, 1924 Prospect Avenue, Cleveland, O.
Thomas Gilbert Mouat, 162 E. 105th Street, Cleveland, O.
Benjamin Nelson, 1510 Monadnock Bldg., Chicago, Ill.
H. H. Nobis, 14 Howland Avenue, Toronto, Ont.
Louis Ferdinand Nordine, Moline, Ill.
James S. Otis, 2 East 23rd St., New York City.
William Henry Smead, 1028 Citizens Bldg., Cleveland, O.
Alfred E. Stacey, jr., 1508 Fort Dearborn Bldg., Chicago, Ill.
Henry A. Volbracht, 4580 Park Ave., New York City.
Dean Bailey Wilhelm, 503 Farrell Bldg., Pittsburgh, Pa.
Arthur Cutts Willard, University of Illinois, Urbana, Ill.

Associate Members.

Frank A. Dow, Hume Mansur Bldg., Indianapolis, Ind.
William M. Foster, Detroit, Mich.
Harold Carlton Hewitt, 1217 Schofield Bldg., Cleveland, O.
John Hanson Mitchell, Richmond, Va.

WHAT THE LAW DECIDES.

Liability for Illness from Sewer Gas.

The Supreme Court of Minnesota says that the plaintiff in the case of Brown vs. Smith and others, 141 Northwestern Reporter, 2, was a stationary engineer, and spent his time in the engine room of a six-story building. The defendants were plumbers, and were employed by the first-story tenant to change the plumbing on the first floor. In so doing they left in the space between the first floor and the basement ceiling, and immediately over the plaintiff's place of work, an open sewer pipe connected with a main sewer. There was an opening in the basement ceiling at this point through which the air might circle down from the open sewer pipe to the basement. Some time thereafter the plaintiff grew gradually ill and was finally obliged to quit work. Other witnesses detected bad air in the vicinity of this open pipe. The plaintiff's physician could find nothing to account for his illness. He testified that he knew the man was poisoned, but could not find the cause. After 20 months this open pipe was discovered and was at once closed. The physician then treated the plaintiff for sewer air poisoning, and his health gradually improved. This physician gave the opinion that sewer air would fully account for the plaintiff's illness. Another physician, who examined the premises and heard the testimony, testified that under the conditions existing sufficient sewer air might come into the basement room to cause the plaintiff's illness, and that, in view of the absence of other causes, sewer air was probably the cause.

The terms "sewer gas" and "sewer air" the court says were used both by counsel and by witnesses somewhat indiscriminately. It appeared that, properly speaking, sewer gas is a gas arising from decomposition of organic matter when confined; that sewer air is the air of a sewer, and may not contain sewer gas. There was testimony that sewer air is bad air, especially when the sewer is small, as it was at this point, and, if breathed day after day, might cause the impairment of health here complained of.

Under the facts stated, the defendants, the court holds, were liable to the plaintiff in damages if they negligently left this sewer pipe open, and if the plaintiff's illness was caused by sewer gas emitted therefrom. The question of their negligence should have been submitted to the jury. It was true that these parties were strangers to each other. There was no contract relation between them. But that was not decisive of their duties one to another. The case was within the rule that whenever one person is by circumstances placed in such a position with regard to another that every one of ordinary sense who did think would at once recognize that, if he did not use ordinary care and skill in his own conduct with regard to those circumstances, he would cause danger of injury to the person of another, a duty arises to use ordinary care and skill to avoid such danger.

Likewise, the question of whether the plaintiff's illness was caused by breathing sewer gas or sewer air emitted from this sewer pipe should have been submitted to the jury. The facts in evidence and the opinion evidence, taken together, made the case a fair one for the jury to determine. If the facts were as stated, and the opinions given were correct, the plaintiff was entitled to recover. It might be that without the opinion evidence no case was made out. But it often occurs that some essential part of a case must rest on opinion evidence. The opinions in this case were not as conjectural. They were reasonably positive, and were not on their face inherently improbable.

For these reasons an order directing a verdict for the defendants is reversed.

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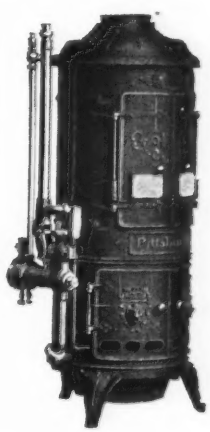

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FOR SALE—PLUMBING AND HEATing business in a growing town of 10,000, in central Pennsylvania. Plenty of work the year round. Reason for selling, leaving town. Address 1166, care "Domestic Engineering," Chicago. 9-26; 10-3

Miscellaneous.

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James Frank Firestone, Dowagiac, Mich.
Edwin Robert Little, Winnipeg, Man.
Virgil A. Root, 7613 Wade Park Avenue, Cleveland, O.

EASTERN TRADE GOLF ASSOCIATION'S AUTUMN TOURNAMENT.

The autumn tournament of the Eastern Trade Golf Association was held on the links of the Upper Montclair Country Club at Upper Montclair, N. J., on Tuesday, October 6, and it was one of the most pleasurable events in the history of the association. About fifty members and guests were present, of whom forty-one took to the course. Two rounds of the course constituted the day's work.

The autumn tournament, 18 holes, medal play handicap was the morning's event, and after an excellent luncheon a best ball foursome was played.

Three prizes were offered in the handicap. W. T. Gilmour took first, a silver cup. A. S. Armagnac, second, a clock; and F. S. Cooper, third, a silver cup.

In a match play against bogey, counting the first round of course, W. G. Titus won a clock and Stephen Roberts a set of clubs offered by member Alex. Smith.

A special prize, a silver cup, for players who had never won a prize, went to T. E. Oliver.

In the foursome A. H. Ross and J. E. Rutzler won clocks.

The day's plays follow:

Morning 18-Hole Medal Play Handicap.

	Out.	In.	Gross.	Handicap.	Net.
E. C. Molby	49	47	96	7	89
Stephen Roberts	47	39	86	7	79
Frank C. McLain	52	51	103	15	88
W. G. Titus	46	45	91	17	74
Farnham Yardley	50	49	99	18	81
W. H. Burnett	48	46	94	9	85
J. J. Blackmore	60	54	114	20	94
P. H. Seward	52	51	103	24	79
W. G. LeCompte	67	65	132	36	96
A. S. Armagnac	41	44	85	16	69
R. B. Hunt	54	41	95	14	81
F. J. Oliver	54	49	103	12	91
F. S. Williams	48	43	91	11	80
J. B. Garfield	44	42	86	0	86
J. I. Simmons	42	41	83	6	77
C. S. Wood	50	47	97	22	75
W. W. Hubbard	50	51	101	20	81
E. J. Hughes	52	47	99	20	79
P. E. Oliver	46	44	90	20	70
D. H. Roney	54	46	100	25	75
L. Moore	54	51	105	20	85
G. M. Scott	50	48	98	22	76
R. J. Hauxwell	46	46	92	12	80
J. Barnum	70	63	133	40	93
C. Kiewitz	67	59	126	36	90
F. F. Cooper	50	46	96	26	70
H. R. Clark	51	51	102	30	72
O. Lawes	41	40	81	0	81
G. W. Pierpont	62	52	114	15	99
H. R. Watson	56	45	101	15	86
W. C. Matlack	55	48	103	22	81
R. T. Potts	52	47	99	18	81
W. B. Maddock	59	50	109	30	79
W. M. Cosgrove	59	57	116	0	0
C. M. Wills	51	41	92	5	87
L. G. Allen	65	51	116	0	0
W. T. Gilmour	54	46	100	32	68
A. H. Ross	68	53	121	36	85
E. Rutzler	80	58	138	36	102
E. E. Gano	51	46	97	16	81
W. L. Fleisher	49	48	97	15	82

Afternoon Play, Foursome.

	Out.	In.	Gross.	Handicap.	Net.
W. F. Gilmour L. G. Allen	52	50	102	25	77
W. F. Gilmour E. E. Gano	46	43	89	16	73
W. L. Fleisher W. G. Titus	41	45	86	15	71
J. J. Blackmore P. H. Seward	50	49	99	20	79
D. H. Roney R. Hauxwell	44	45	89	12	77
L. Moore G. M. Scott	45	47	92	20	72
F. J. Oliver F. S. Williams	38	43	81	11	70
A. S. Armagnac R. B. Hunt	50	38	88	14	74
C. S. Wood W. W. Hubbard	48	46	94	20	74
E. J. Hughes J. E. Oliver	49	46	95	20	75
G. W. Pierpont F. Yardley	42	48	90	15	75
W. G. LeCompte H. S. Haddon	49	47	96	14	82
C. Kiewitz J. Barnum	60	62	122	36	86
J. Barnum W. M. Cosgrove	49	53	102	32	70
J. I. Simmons J. B. Garfield	41	38	79	0	79
E. C. Molby S. Roberts	45	38	83	7	76
W. H. Burnett F. C. McLain	43	42	85	9	76
Osborne Lawes C. M. Wills	39	39	78	0	78
A. H. Ross J. E. Rutzler	52	50	102	36	66
H. R. Clarke F. F. Cooper	53	47	100	25	75
H. R. Watson W. B. Maddock	48	52	100	15	85
R. T. Potts W. C. Matlack	43	47	90	18	72

The players spent several pleasant hours at the club house, where dinner was taken, following the day's work.

THE QUESTION OF CREDIT AND PERSONAL EFFORT IN SECURING BUSINESS IN ARGENTINA.

In the course of an interesting report of trade opportunities in Argentina, United States Consul William Dawson, jr., of Rosario, says, that the much discussed credit question will probably not play as important a role during the next few months as in the past. In the first place, the German competitor who has been instrumental in extending credits will not be in the market, as is generally assumed here, for some time. In the second place, there has been a general tendency on part of importers since the outbreak of war to reduce credits given to their customers. Many houses, and among them German importers, are selling only against cash. While this will not be permanent, it seems fair to predict that in view of recent experiences and the international situation, the return to abnormally long credits will not be immediate, in spite of the fact that good crop prospects will increase confidence in the country customer.

Much of the merchandise which will be imported from the United States will be taken by large firms already enjoying a good reputation in our export circles. Some of these firms demand no credit, but expect a special cash discount of 2 to 5 per cent. As long as war lasts, there will undoubtedly be a general tendency all over the world to restrict credits to a minimum and this the Argentine importer will realize. Under normal circumstances 90 days from arrival of goods are generally considered satis-

factory terms here. In view of the present unsettled condition at Rosario and the prevailing uncertainty as respects foreign trade, it is difficulty to make recommendations or positive statements of any kind as to credit policy. In the interests of a permanent increase of American trade and influence in this market it is believed that exporters of the United States should follow as liberal a policy as they possibly can after due consideration of the international situation and the effects which events of the next months will have on the Argentine market. The attitude assumed by European competitors who continue to export will naturally be an important factor in fixing credits.

Owing to extraordinary conditions, much business will undoubtedly be done in the next few months by correspondence, and Argentine merchants, actuated by immediate necessity of obtaining merchandise, will order by catalog in cases where the same catalog would not be read in normal times. All things considered, it is probably advisable to make liberal use of catalogs (in Spanish, if practicable), particularly by way of introduction during the next few months. But the catalog must be followed by the personal representative if we are to maintain our hold on the market or even receive the full benefit of present circumstances. The ease with which out products will slip into place formerly occupied by certain European exports must not be overestimated. In many instances dealers will have to be urged to complete stocks with goods which may not satisfy the customer. England and Italy will presumably continue to export and both are in close touch with the market, which they work thoroughly, favored by large resident colonies and important investments. But even in the event that the American manufacturer finds with small effort a sufficient additional demand to satisfy him for the present, he will never get the grip necessary to hold the market permanently until he decides to study it on the spot personally or through competent employes.

The Argentine crisis apears to be nearing its close. The country has promise of an abundant crop at a time when there will be a terrible shortage in Europe. This means vastly increased purchasing power in a market where our competitors are lamed. It is the opinion of Americans in Argentina that our business men should leave nothing undone in their efforts to take advantage of this splendid opportunity.

Alfred F. Howe, general sales manager of the Borden Company, of Warren, O., was in Chicago this week calling on some of his many friends in the trade. He reported business fine with his company.

John D. Blake, president of the Blake Specialty Co., of Rock Island, Ill., was in Chicago on business recently, sojourning for a day before departing for the east, where he will spend several weeks calling on the trade.

C. M. Meusel, connected with the Wolverine Brass Works of Grand Rapids, Mich., for the past ten years, has recently accepted a position with the Plumbing Sales Co., of Chicago. He will call on the local trade for the latter company.

Lou Brennan and Ted Moran, the two "live wires" of the Victor Brass Mfg. Co., of Cleveland, were last week covering Chicago territory in the interests of that concern. While here they were entertained and introduced to a large number of local men in the trade, through the courtesy of John T. Fitzsimmons, of the Plumbing Sales Co., of Chicago. Ted and Lou are now on an extended tour of the West.

George Dyer, of the Trenton Potteries Co., Trenton, N. J., was the victim of brief cold which recently confined him to his bed in Cleveland, O. William Devine, western representative of the Thomas Maddock's Sons Co., who happened to be in the city at the time, called on the patient and gave him enough inspiration to get up and join him at dinner. Mr. Dyer is now a well man again and whooping it up among the trade once more.

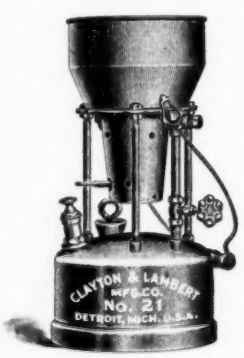
We present herewith a good likeness of Stephen H. Gilmore, the live and progressive manager of the L. M. Rumsey Co.'s Display Rooms, St. Louis, Mo., who has a wide and steadfast circle of friends in the Missouri trade. To the right stands Charles D. Matthews, of Columbia, Mo., an old friend of Stephen H. 'Tis said that Mr. Matthews is always in the best of humor, a fact which is quite apparent in the picture. He operates a very extensive plumbing and heating business.

Stephen H. Gilmore and Charles D. Matthews.

Frank E. Baker, of the Clow Bulletin department, James B. Clow & Sons, Chicago, has recently returned from a fifteen days' tour of Montana, Utah and Colorado. He visited local associations of master plumbers and fitters and gave chalk talks on Overhead Expense, Cost Systems and Business Methods. He declared that men in the trade in the states visited, were a unit in agreeing that the Clow Company deserves much credit for the educational campaign they are waging this year in assisting the plumbers to obtain an adequate profit.

A NEW STEEL COIL FIRE POT.

The Clayton & Lambert Mfg. Co., of Detroit, Mich., makers of an extensive line of fire pots and torches, has recently placed on the market a new type of steel coil fire pots. It is claimed that this new fire pot contains all of the latest improvements in coil fire pot construction. The tank is made without soldered joints but is drawn from one piece of extra heavy steel with bottom and fittings welded in, making it extra strong and durable. The top plate is malleable iron, the uprights extra heavy, the valve large and well made and the large funnel shaped filler greatly facilitates filing the tank with gasoline. The makers claim that all parts of this new fire pot are of the best possible construction and designed to withstand the most severe service producing the maximum degree of heat with the greatest economy in the consumption of fuel. The pot is made with automatic brass pump



and the manufacturers are prepared to supply also their new No. 11 which is similar but fitted with a good rubber bulb for producing air pressure in the tank. Further information that may be desired by the reader concerning these new fire pots will be supplied by the manufacturers upon request, mentioning "Domestic Engineering."

ISSUES THERMOSTAT BOOKLET.

An interesting twenty-four-page booklet, handsomely illustrated and printed in three colors, has recently been issued by the American Thermostat Co., of Elmira, N. Y. The front-cover design shown herewith is far more attractive than one would imagine from a glance at this miniature reproduction, owing to the fact that it is embossed and printed in several colors. On page twelve and thirteen are drawings showing how the "Marvel" thermostat is installed in old and new residences without affecting the interior decorations, and how the "Marvel" motor can easily be installed in connection with any type of heater. Other pages treat of the many uses to which the "Marvel" motor and the "Marvel" thermostat can be put. Those desiring copies of this booklet, can procure it by writing the concern at the above address, mentioning "Domestic Engineering."

NEW CATALOG OF WOLVERINE BRASS WORKS.

A handsome desk catalog, of 427 pages, size 7½x10, has just been issued by the Wolverine Brass Works, Grand Rapids, Mich. It is known as Catalog "H." The cloth cover is of orange, the binding being very substantial. Beginning with brass traps, the line shown includes waste and overflows, basin and bath supplies, bath and basin cocks, ball cocks, shower baths, bathroom fittings of all kinds, and a most complete line of tools and miscellaneous supplies. Nearly six thousand specialties are catalogued, an index of nine pages being necessary to include the various lines. A copy of this catalog can no doubt be obtained by those interested from the Wolverine Brass Works, if mention is made of "Domestic Engineering."

A NEW PIPE CLAMP.

The Gealy Wrench & Mfg. Co., of Grove City, Pa., has just put on the market a new pipe clamp, invented by Mr. Geo. M. Gealy, patentee of the Gealy chain pipe wrench. This new clamp is adapted to the three common sizes of finished pipe and does away with the necessity of three clamps in the plumber's kit or on the bench. Adjustment to the various sizes of pipe is automatic and the little device is said to be meeting with the favor of those who have seen it.

The Metal Market

The Iron Market Unchanged.

The situation in pig iron circles remains unchanged. There are no inquiries of notably great size. The sales that have been made have been along the line of carload lots, and these have not been numerous. A number of the machine tool builders in Cincinnati are said to have received fair orders for export trade, but up to the present this has had little effect upon the pig iron melt, as it opened the way for them to dispose of numerous stock tools to meet the requirements of the hurry order accompanying the sale. The furnace situation in the South is said to be unchanged, and furnaces are holding to the established quotation of $10 and $10.25 Birmingham. Other quotations are as follows:

No. 1 Northern Foundry, New York	$14.75 to $15.00
No. 2X Northern Foundry, New York	14.45 to 14.70
No. 2 Southern Foundry, Cincinnati	12.90 to 13.15
No. 2 Northern Foundry, Chicago	13.00 to 13.50

No Change in the Copper Market.

A report from Washington states that an agreement has been reached on the question of shipments to neutral countries. As the neutrals are to be allowed to take only such quantities as they need for their own requirements, no increase in our exports is possible, in fact, there will, if anything, be a decrease. The Germans trade direct and via Holland and the Austrian trade cannot be served under present conditions and this represents a loss of something over 200,000 tons a year or 35,000,000 to 40,000,000 pounds per month. The domestic market remains very quiet and prices are unchanged at 11.75 cts. delivered for Electrolytic and 12 cts. for Lake.

Price of Lead Reduced.

A reduction in the price of lead was announced in New York last Monday, of $3 a ton, and another reduction of $2 a ton was made last Wednesday. This puts the price of lead at 3.50 cts. in New York, with the usual differentials for deliveries in other cities. This is three reductions within two weeks and it brings the price down to a level that has only once before been reached in the past fifteen years.

Tin Market Quiet.

The market in tin continues very quiet on spot, the demand is small, and sellers are inclined to meet buyers. Futures are more freely offered from abroad and some of the larger consumers continue to buy far-off futures, believing that the metal is on a safe basis. November, December and January is available at 30¼ cents, or a shade under the spot market, 30.80 cents.

Spelter.

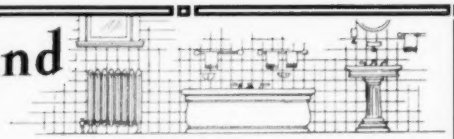
Spelter is dull and lower, at 4.85 to 4.95, New York; 4.70 to 4.75, St. Louis.

Old Metals.

New York dealers' buying prices are all nominal as follows:

Strictly crucible copper	$9.75 to $10.00
Light copper	9.37½ to 9.50
Uncrucibled copper wire	9.12½ to 9.37½
Uncrucibled heavy copper	9.12½ to 9.37½
No. 1 machine composition	8.75 to 9.00
Cocks and faucets	7.50 to 7.75

Among the Plumbing and Heating Contractors



Illinois

Chicago and Vicinity.

The Murphy Plumbing Co., 23 East Congress Street, Chicago, has recently been awarded the contract for the plumbing of a modern manual training school in course of erection in Pullman, Ill. The plumbing work will cost approximately $10,000.

On Friday evening, October 2nd, the regular monthly meetings of the Chicago Master Plumbers' Association were resumed in Schiller hall, Schiller Building, Chicago. These meetings will be held the first Friday evening of each month.

James O'Neill, well known to the plumbing fraternity of Central Illinois, has been appointed plumbing inspector of the city of Quincy. He is preparing to begin his new duties with real Celtic vim and vigor.

David Whiteford, one of the veterans in the plumbing business in Chicago, has taken up gardening as a sideline. At his home in River Forest, "Dave" puts in much of his leisure time cultivating potatoes, beets, string beans and tomatoes, etc. "It's a wholesome sport for a hale and hearty Scot," said a friend of his when informed of it recently.

Samuel Kersten, 551 West Jackson Boulevard, Chicago, will install the heating system in a large flat building to be erected at 3654 North Racine Avenue.

The plumbing fixtures for a modern residence to be built at 5727 South Rockwell Street, Chicago, will be installed by Reynolds Bros., of 1835 West 22nd Street.

A. R. Henry, of 5935 South State Street, Chicago, has recently been awarded the plumbing contract for several stores and flats to be constructed at Fifty-third Street and Cornell Avenue.

The Zimmerman Plumbing Co., 10409 Avenue M., will install the plumbing in a residence to be built at 8135 Coles Avenue.

The heating contract for a modern flat to be erected at 333 South Taylor Street, Oak Park, has been awarded to G. Engelhart, 536 Clark Street, Chicago.

E. C. Wagner, of Fullerton and California Avenues, Chicago, will install the plumbing in two apartments at 3326 Warner Avenue.

Wm. Blome, jr., who has for a number of years conducted a plumbing shop at 5346 Broadway, Chicago, has recently discontinued business at that address, and has connected himself with the Illinois Heating and Plumbing Co., 5138 Pensacola Avenue, and will in the future operate from the latter location in the heating as well as the plumbing line.

The plumbing for the new Y. M. C. A. building to be erected at Alton, Ill., will be installed by the Alton Plumbing & Heating Co. R. P. Kennedy and T. C. Bristow, two of Alton's prominent citizens, comprise the personnel of the firm.

After a six weeks' battle with typhoid fever, Jos. W. Cannon, of 11323 Michigan Avenue, secretary of the Chicago Master Plumbers' Association, has thoroughly recovered from his illness, and is now back at his desk in the plumbing and electric fixture business.

According to a ruling of the Smoke Abatement Commission of Chicago, the department of smoke inspection of the city will not permit the use of heating plants which are not equipped with some type of smokeless boiler in buildings containing six apartments and over, and in all factories or mercantile buildings of other types, containing 12,000 sq. ft. radiation. This ruling went into effect on October 1st, 1914. R. B. Wilcox, supervising engineer of the Department for the Inspection of Steam Boilers, declared this week that the ordinance relating to the installation of boilers would now be rigidly enforced, and that the plans must be approved by the Bureau of Fire Prevention and Public Safety, and also the Smoke Department before permits can be issued for boiler installation. Before the ruling of the Smoke Abatement Commission went into legal effect there were 330 permits taken out on September 29th and 30th. Those obtaining these permits are not obliged to obey the ruling. The law bearing on the installation of boilers is as follows:

Sec. 2403. Chapter 1. Article 1. Chicago Code. "Any person, firm or corporation selling or erecting steam boilers shall, on the sale or delivery of a steam boiler, notify the Chief Inspector of the Department for the Inspection of Steam Boilers, Steam and Cooling Plants, giving name of owner, number and name of street or otherwise designate the locality of said delivery or sale."

It is also provided in Section 2391 that: "No new plant or any reconstruction of an old plant for producing power or heat, or either of them, shall be erected until the plans and specifications of same have been filed in the office of and approved by, and a permit issued by the Chief Inspector for such erection or reconstruction."

In accordance with the above, permits must be taken out before work is started.

Section 2405 provides that: "Any person who shall violate any of the provisions of this article shall be fined not less than $25 nor more than $100 for each offense."

Ohio

Cincinnati and Vicinity.

Like the shoemaker whose children go barefoot, and the dentist who permits his family's teeth to decay unnoticed, the city of Cincinnati has been too busy looking after the sanitation of its citizens' residences to see to its own official home; and last week the Board of Health found it necessary, on account of the condition of the toilets in the city hall, to direct an examination by Chief Sanitary Inspector Folsom. Mr. Folsom will see that proper action is taken by the city officials to remedy the insanitary conditions said to prevail, which means that the services of a plumber will be required.

Henry Ehemann, of Cincinnati, O., is busy on some contracts for plumbing and heating a number of new houses at Warsaw, Ky.

Cleveland and Vicinity.

Cleveland plumbers and steam fitters now have the assurance that work will last straight through the winter, irrespective of the European war. This situation is due to the large number of buildings that remain uncompleted from the summer's building. There are scores of these buildings, dotted in every section of the city and from this outlook, the year will have passed as the most prosperous Cleveland craftsmen ever saw. There has been nothing thus far to mar a perfect year's work.

Among the building operations for the past ten days may be noted the following:

Smith & Obey have been granted the contract for the plumbing work in the new boiler house and laundry for the Ursuline convent, at Villa Angella. This building will be brick, 63x57 ft.

Architect W. F. Lougee will invite figures on construction and plumbing for the new terminals of the C. & B. and D. & C. Navigation Co. this week. This work is to cost $500,000, and is expected to have extensive steam fitting and plumbing in it.

The accompanying photo of John M. Petro, of 9017 Buckeye Road, Cleveland, O., standing in the door with his efficient organization, attests his success as a progressive master plumber. He declares that everybody in his employ "deliver the goods," and that he has no non-producers. Mr. Petro likewise has one of the most attractive looking shops in his part of the city.

John M. Petro, of Cleveland, O., His Establishment and His Force.

Other Cities in the State.

Dayton, O., which is well to the front among Ohio cities in the matter of public comfort stations, has had some objections thrown in the way recently in the matter of placing such a station in the county court house. Attorney General Hogan informed the county commissioners that this could not legally be done, although he stated that additional toilets could be placed in the building. The question arose when it was found necessary to issue bonds for the purpose, as the commissioners had only $10,000 available, and this was not considered sufficient. The attorney general had previously ruled, it seems, that a complete comfort station could be construed as the addition of toilet facilities, but he balked on the bond issue. The Federated Improvement Association of Dayton is vigorously "boosting" the plan. A public comfort station for the fair grounds is to be built before the 1915 fair, as Secretary I. L. Holderman, of the fair board, points out that the extreme necessity of such a convenience was strikingly shown at the recent fair. The structure will contain at least 36 toilets as well as lavatories, and a rest room for women. Drainage will have to be provided for on the grounds, as sanitary sewer connections are lacking.

The new building code which is being prepared for Canton, O., will contain adequate provisions covering modern plumbing, providing for inspection during the work and for proper licensing of master plumbers, it is announced by Mayor Stolberg, who has the matter in charge. The code will also cover heating equipment, electric wiring and all other departments of building, and will be modern in every respect.

The contract for the erection of a six or seven-story club house for the Columbus Athletic Club on East Broad Street, Columbus, will soon be awarded by the firm of Richards, McCarty & Bulford, architects. The plans and specifications provide for a large amount of plumbing and also for a modern heating and ventilation system. A number of plumbers are figuring on the work.

Property owners in Marion who are building new homes have been told that the new trunk sewer through the city will soon be completed. This will aid in the installation of modern plumbing systems.

Bids opened recently for the plumbing and heating contracts for the Market house at Steubenville, were as follows: Plumbing, Meighen & Keck, $1,385; James H. Frazier, $1,355; A. M. Helms, $1,859; James H. Longacre, $1,500. Heating, James H. Frazier, $1,789; A. M. Helms, $1,861; Meighen & Keck $1,776.

The Huffman-Conklin Co., of Columbus, has been awarded the contract for the heating and ventilation to be installed in the new High School building at Canal Dover.

Kentucky

Louisville and Vicinity.

The plumbers are not quite so busy as they were sixty day ago but are finding enough small jobs to keep them fairly active. The steam fitters have been busy for the past two weeks overhauling boilers and getting things in shape to start the heating plants for the winter. The latter part of September is said to have seen the most unseasonably cool weather known in this district for years, and a number of the downtown office buildings, to say nothing of small residence plants, were started up for a day or two. Nearly all of the apartment houses and office building had to carry steam during the cool spell.

Considerable interest has been displayed by the plumbing men and tile manufacturers in a trial of overhead piping irrigation and underground tile irrigation which is being tried out on the farm of Judge W. G. Dearing, near Valley Station, Ky. The overhead irrigation system was tried out first and did very well with berries and light gardening, and trial of the underground system is now being made for alfalfa at a cost of about $8,000. Milo B. Williams, an irrigation engineer of the U. S. Department of Agriculture, was sent to Louisville from Washington to help lay out the plans.

At the next meeting of the Louisville Master Plumbers' Association a special address will be arranged for on the new Workmen's Compensation Act, which was adopted by the Kentucky Legislature last spring. A test case is now up to try out the validity of the new law. Manufacturing concerns and other concerns which have men subjected to danger are coming in rapidly, and it is the general opinion that the new law will prove beneficial.

Although is has been over three months since the first examinations were made by the new Plumbing Board, of Louisville, a number of the plumbers have not yet received their certificates and are unable to say whether or not they passed the examination.

A number of the leading plumbers have not taken the examination and expect to test the validity of the new plumbing law in Kentucky. No warrants have been issued so far and everything is calm and serene. However, the association is expecting developments shortly and is ready to put up a strong struggle to resist the new law.

H. W. Newman, one of the leading steam fitters, reports business fairly active with him just now. He has closed contracts on big jobs at Roanoke, Va., and Savannah, Ga., and has just completed big jobs on court houses at Warm Springs, Va., Hazard, Ky., and Rockford, Va. A few days ago he secured a contract on the new colored Knights of Pythias building at Tenth and Chestnut Streets. The latter contract will run to about $25,000. The building will be six stories in height, and will have showers, a pool, and a number of dormitories. The total cost of the building will amount to $150,00.

F. S. Schardein & Sons were recently awarded a contract for heating and ventilating a new public school at Forty-second and Garland Avenues. The company's bid was $11,475, the lowest of several bids submitted.

Other Cities in the State.

C. F. Osborne, plumbing contractor, of Fulton, is doing the work on several residences.

J. L. Phipps, plumbing contractor, Mayfield, has installed the plumbing goods in one of the churches at that place and is now busy on a rest room in the Court House and doing other work in Mayfield.

M. M. Coulson, Paducah, now occupies a large store on Broadway, the leading street of the city, and says that while business has been quiet this summer and spring there are indications that it will improve in Paducah.

Albert Arts, plumber in the Three Links Bldg., Paducah, has fitted up several residences and stores this season and is optimistic regarding conditions in the tobacco belt.

Ed Hannon, of Paducah, is doing the plumbing work on the First Baptist Church for Contractor Jack Cole. He also has the contract for the overhauling at the Court House and some work across the river at Metropolis, Ill.

Pennsylvania

Pittsburgh and Vicinity.

The Directors of the County's Home for the the Poor, at a meeting held in County Controller Robert J. Cunningham's office, let a contract to Bartley-Kennedy Co., of Pittsburgh, to install a heating plant in the country home at Woodville, at a price of $97,550. Thirteen other companies submitted bids.

The contract for a hot water heating system to be installed in the residence of Ralph Trout, Elm Street, Wilkinsburg, Pa., has been awarded to the Reliance Heating Co., of Pittsburgh.

The heating contract for the $75,000 residence at New Castle, Pa., for A. C. Hoyt, has been awarded to Bartley-Kennedy Co., of Pittsburgh.

George H. Soffel & Co., of Pittsburgh, have received the plumbing contract for the newspaper building of the Pittsburgh Gazette Times.

Philadelphia and Vicinity.

Paul J. Hoft, 245 S. 8th Street, has been awarded the contract to install new plumbing and heating at 2234 Richmond Street, for J. Trainor. Consideration, $900. He will also install a new heating apparatus at 915 Spruce Street, for Wm. Bryant. Consideration, $700.

A. Pasquale, 8th and Bainbridge Streets, has been awarded the plumbing contract for the property at 4810 Woodland Avenue.

Benjamin Landau, 1216 N. 4th Street, has been awarded the plumbing and heating contract for the new stores at the corner of Uber and Susquehanna Avenues.

William Anderson, 108 S. 20th Street, has been awarded the contract for the heating to be installed in the new Penn Mutual Life Building which is now being built at the corner of 6th and Walnut Streets.

A compact and diversified floor display, which reflects credit on the good taste of the originator—R. F. McHugh,

The Attractive Showroom of R. F. McHugh, 7029 Woodland Avenue, Philadelphia.

of 7029 Woodland Avenue, Philadelphia, Pa., is shown herewith. Mr. McHugh is one of the busy and up-to-the minute men of the craft in the Quaker City.

Connecticut

The Rourke Brothers Co., of New Haven, has the contract for the plumbing, heating and metal work on the addition to the high school building on Broadway, New Haven, for which the David H. Clark Co. has the general contract.

Thomas Shorrack, who formerly worked for James Goodier, a master plumber in Shelton, has opened a plumbing establishment of his own on White Street in that town.

T. J. Killan has the contract for the plumbing of a three-family house on Charles Street, Bridgeport, for F. J. Kennelly. The Rehill Heating & Plumbing Co. of Bridgeport has the contract for the plumbing and heating systems to be installed in a house at Hollister Heights, for Theodore Ford.

The W. H. Lowe Co. of Waterbury has the contract for plumbing a three-family house on Lincoln Street for I. M. Shapire, plumbing in a house on Fairlawn Avenue for George Oulette, and plumbing and heating in a house on Frost Road for Alfred Larivierre. J. M. Reichenbach has been awarded a contract for plumbing in a three-family house being erected on Lincoln Street.

Massachusetts

The Master Plumbers' Association of Boston and Vicinity opened the fall season with a campaign for new members. Secretary William A. Tucker has been devoting considerable time to this and at the last meeting had several applications to present. He expects to have a number of others for the next meeting. The Boston association has a wider field than many locals in that it takes in practically all of the suburbs. P. A. Lang, of East Boston, has just been elected treasurer of the association.

Members of the Master Plumbers' Association of New Bedford held a conference with the board on the question of revision of the plumbing ordinances. The master plumbers claim the rules and regulations governing the installation of plumbing are incomplete in many details. The health board has previously recommended to the city council the revision of the plumbing ordinances and it is thought likely some action may soon be taken.

J. T. Cahill & Sons, of Worcester, have been awarded the contract for plumbing the schoolhouse being erected for St. Joseph's parish. The contract price was $2,940, and stipulates that all work must be completed before May, 1915. More than three thousand feet of pipe will be placed, and sanitary drinking fountains of the bubbler type will be installed in each of the seventeen class rooms.

The Royal Steamer Heater Co., of Gardner, has secured the contract for installing a new heating system in the Garland block which is being reconstructed. John H. Murray was given the plumbing contract.

J. P. McCarty, of Springfield, has the contract to install steam heating in an eight-family apartment block on John Street, for George W. Curtis, steam heating in two double houses on the Wilbraham Road for Wm. Johnson, heating in the following buildings: a two-family house on Jefferson Avenue for B. Goldberg, a single house on Mapledell Street for John A. Reed, two-family house on Prospect Street for James Duke and a new factory building on Cypress Street for H. A. Allen.

The contract for plumbing in the new Naumkeag Cotton Mills, at Salem, the largest manufacturing plant in the city, which was destroyed by fire in June, has been placed with F. A. Wendell, of Salem. The plant covers several acres.

M. T. Doherty, of Holyoke, has been awarded the contract for plumbing in a new apartment block to be erected at the corner of Appleton and Walnut Streets, Holyoke, for Treffle Beaudoin. The building will contain fifteen apartments with all modern improvements.

Maine

The Hanley-Casey Mechanical Equipment Co., organized at Portland for the purpose of "entering into, making, performing and carrying out contracts for plumbing, decorating, fitting up and improving buildings," has been incorporated with a capital of $600,000. The officers are Albert F. Jones and T. S. Croteau of Portland.

The plumbing and hardware business of the late W. F. Hutchinson of Livermore Falls has been purchased by Lufkin & Pengra. Mr. Lufkin is a Portland man, and Mr. Pengra comes from Illinois.

You Want More Profit, of Course

Profit by the demand for Quick-Pression Work. Many people want better faucets. They are tired of the kind that leaks, thumps and needs constant repair. Until QUICK-PRESSION WORK PATENTED was advertised they did not know of any improved kind. National advertising told them that Quick-Pression never leaks and lasts as long as the house. They know it by name.

People will come to you for Quick-Pression if you let them know you have it. The business is yours if you use our selling helps. Write us for our selling plan.

The CENTRAL BRASS M'F'G. CO. of CLEVELAND

Originators and Sole Manufacturers of the Nationally Advertised Quick-Pression Work

Says the Little Plumber:

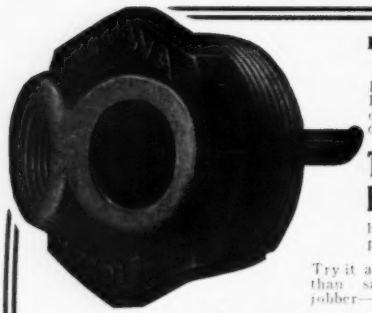
GET under the shower of Quick-Pression profits, it invigorates the daily sales.

Mister Biberck

THE REAL PORTABLE
VISE BENCH

Made to fit any vise.
Pays for itself on first job in cartage alone.
Easily folded and carried to job like any other tool.
Saves time and labor.
Requires but few minutes to stand it up, fasten to floor, and it is ready for use.
Thousands in use by up-to-date plumbers and fitters.
Write today for booklet containing full details and names of satisfied users.

STANDARD IRON WORKS
540-50 W. 58th St. New York City



Reliable Connections
For making Flow and Return Connections on One End of Radiator

The "NEU-WA" Radiator Bushing
has no equal for simplicity and efficiency.

Try it and you will be more than satisfied. Ask your jobber—or write us.

Manufactured by
Neuman-Warnock Co., Beaver Dam, Wis.

Imitations Are Costly
in the long run.
There are no other hydrants "just as good" as the Genuine

Murdock Self-Closing Hydrant

Look for the full name MURDOCK cast into the hydrant.
Heavy phosphor bronze spring gives positive action.
Always "on the job" summer and winter. Positively frost-proof.
Specify the GENUINE MURDOCK and **be sure you get it.**
Write for full details.

The Murdock Mfg. & Supply Co.
Cincinnati, Ohio

IT IS GOOD BUSINESS
for the plumber to show his customers how they can reduce their gas bills.

The Wentz Thermostat

is reliable. You need not hesitate to give it your hearty recommendation. The Wentz Thermostat is alert, it acts quickly, and saves the gas. It is easily installed, and is absolutely dependable. This inexpensive attachment applied to small tank heaters gives the same service obtained from expensive instantaneous heaters. The Wentz Thermostat is splendidly adapted to regulate the temperature of hot water heating systems for the home or garage.
Send us your order for a sample valve.

The Wentz-Yoder Mfg. Co., Engineers Bldg., Cleveland, O.

California

San Francisco and Vicinity.

Large contracts have been rather scarce for some days, but some fairly large jobs are due to be let before long. A number of the shops are doing considerable general jobbing work, though the fall rush on this is delayed by the absence of early fall rains. The preparations of apartment houses, hotels and residences for the reception of guests are furnishing the plumbers with plenty of work.

A. D. Nelson, of San Francisco, general contractor, for the summer resort known as New York City, to be built at Blairsden, announces that a special service building will be erected to house the steam heating, electric and ice plants for the resort.

The contracts for the Bradburry Estate Investment Co. building, which have been expected for some time, have just been awarded. The plumbing and gas-fitting contract was awarded to J. J. McLeod for $5,240 and the heating contract to the Siebert Co., for $1,753.

The stork has recently favored Samuel Simon, of Simon Bros., dealers in plumbing specialties, San Francisco, with a charming gift in the shape of a healthy boy, born September 29th.

Other Cities in the State.

A good deal of small work is now going on in Los Angeles and a few large jobs are in prospect. A permit has been issued for the seven-story C. W. Howard hotel building on East Fifth Street. This will contain 120 rooms and will cost about $70,000. The general contract for the $45,000 Los Angeles Laundry building has already been let; and a permit has been issued for the $50,000 apartment house, containing 100 rooms, to the California Architectural and Construction Co.

There was some lively bidding in Santa Cruz for the work on the new High School last week, a large number of San Francisco houses putting in bids. Byrne Bros. of Santa Cruz were the successful bidders for the plumbing, at $5,550 and J. C. Hurley of San Francisco secured the heating and ventilating contract for $9,200.

The American Heating & Construction Co., 514 Byrne Building, Los Angeles, has just secured the heating and ventilating contract, amounting to $21,990, for the Kern County High School at Bakersfield, Cal. This is a central heating plant to heat four buildings and consists of a 120-h. p. boiler, 2,400 feet of direct radiation and 2,800 feet of Vento radiation. This company also has the contract for the heating on the remodeling of the Tegler Hotel at Bakersfield, where 2,000 feet of radiation will be installed.

Oregon

The plans selected for the new school building to be erected at Athena, call for a gymnasium, shower baths, domestic science rooms and heating and ventilating plants.

The general contract for the $50,000 Elks Lodge building at La Grande, has been let. The plumbing and electric wiring contracts will be awarded in a few days.

The contracts for the new Administration Building, at the University of Oregon, Eugene, were awarded this week. The Kendall Heating Co., of Portland, will install the heating plant for $23,400; and Flegel-Long & Co., of Springfield, secured the plumbing work at $3,185.

Washington

Seattle.

Business conditions in the City of Seattle and vicinity at the present time are practically the same as heretofore, and while the city cannot be said to be booming, it is experiencing a rapid and healthy growth.

Excavation work has been started on an eight-story reinforced concrete building, costing from $800,000 to $850,000, for the Seattle Terminal Co., Chicago, Milwaukee & Puget Sound Railway, on the corner of First Avenue South, and Utah Street. The huge structure will cover a plot of ground 240 x 330 feet and will be fireproof throughout. It is reported the contract for general construction will be let within three weeks at the latest. About fifteen large contracting firms have submitted bids for the work, but their bids do not include plumbing or heating.

The Pearson Construction Co., New York Block, recently received contract for the construction of a concrete and brick postoffice building for the Great Northern Railway Co., same to cost between $30,000 and $40,000. Bids are being received by the Construction Co. for both plumbing and heating.

Bids for the construction of a $50,000 club building, on Boren Avenue, for the Sunset Club, will be received at once, by Architect J. S. Cote, Haight Bldg. The contract for installation of plumbing, heating and ventilating systems will be received by the general contractor, when awards have been made.

Other Cities in the State.

The W. P. Fuller & Co., distributors of paint and oil, of Spokane, through its local manager, P. C. Patterson, recently purchased a site on Desmet Avenue, where a $50,000 warehouse will be erected this fall.

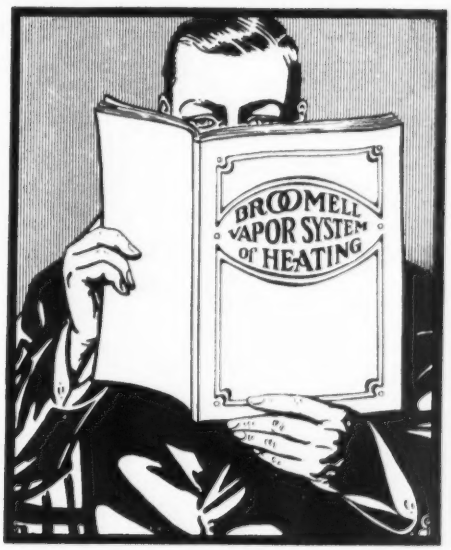
The School Board, Bellingham, has received bids for the construction of the 14th Street School, and a contract will probably be awarded to the low bidder, Skagit Construction Co., who bid $46,588 for solid brick with terra cotta trim; $42,988, for hollow tile, plaster exterior with terra cotta trim; $45,048 for hollow tile, with wire cut brick and terra cotta trim, and $40,483 for reinforced concrete with terra cotta trim. The winning contractor will handle the bids for sub-contracts, which include plumbing, heating, etc.

The Fouts Construction Co., 815 Pike Street, Seattle, was recently awarded the contract for construction of a 2-story reinforced concrete, fireproof bank and office building for P. M. Troy and F. W. Stocking, to be erected on Main, near Washington Street, in Olympia, at a cost of approximately $50,000. The general contractors will receive bids for sub-contracts.

Marble Bros., of Ephrata, were awarded the contract to build the new $25,000 high school. George W. Ryker, clerk of the School Board, will receive bids at once for installation of plumbing and heating systems.

The Robbins Transfer Co., of Everett, has had plans prepared for the erection of a $20,000 3-story brick and concrete business building, on Chestnut Street, between Hewitt and Pacific Avenues.

School Districts No. 31 and 58, Wenatchee, have consolidated and a school building to cost not less than $30,000 will be erected near the site of the present Beacon Hill School.



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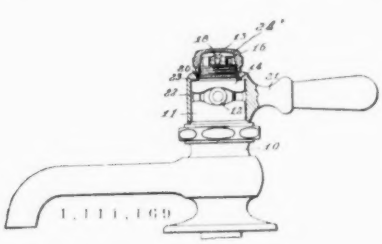
Patents

Plumbing Department.

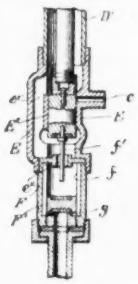
1,111,169. Lever handle for self closing work. Philip Mueller, Decatur, Ill., assignor to H. Mueller Mfg. Co., Decatur, Ill., a Corporation of Illinois. In self closing work, a fixed lower track-way, a movable upper track-way, rollers between the track-ways to raise the upper track-way upon the rotation thereof, a flange upon the top of the upper track-way having teeth in its periphery, a projection above the flange, a hood engaging over said track-ways and having an opening in its top and internal teeth in the wall of the opening for engagement with the teeth of said flange to hold the hood from turning upon the upper track-way, said hood also having a handle projecting therefrom for turning the upper track-way, and a cap threaded upon the said projection and engaging the hood to secure the same to said flange.



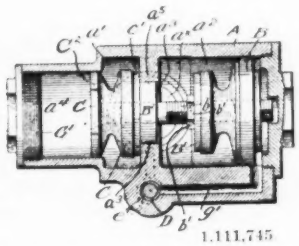
1,111,325. Sanitary drinking fountain. Wesley M. Rose, Sacramento, Cal. In a sanitary drinking fountain, a basin having a drain outlet, a tubular member having an open upper end connected to the basin, a water inlet which communicates with the lower end of the tubular member, said member having an overflow outlet located between its ends and at a point slightly above the basin bottom, a closure for the basin which is located adjacent to the upper end of the tubular member, said closure acting as a guard for the member and having an opening which registers with the tubular member and which allows of the insertion of a drinking tube therethrough so that the tube may be projected into the tubular member below the overflow outlet of the latter, and a valve controlling the water inlet and formed to permit only such quantity of water to enter the tubular member as will rise a short distance above the overflow outlet.

1,111,744. Tank-Flushing Device. Philip Haas, Dayton, O. In a flushing device for water closets, the combination with the bowl, a flushing pipe connected thereto, and an inlet valve for said flushing pipe located below the bowl, said flushing pipe being provided with a drain outlet adjacent to the inlet valve, adapted to be connected to the soil pipe, of a check valve interposed between the inlet valve and the water inlet pipe and located below the connection of the drain outlet with the flushing pipe, a valve seat for said check valve located between said valve and the inlet valve, and a valve seat for the check valve located between it and the water supply, said inlet valve being provided with a projection for engaging the check valve and normally holding it away from the valve seat adjacent to the inlet valve and for forcing it positively toward the other of said valve seats when the inlet

valve is in closed position, whereby the said check valve will positively prevent contamination of the water supply from the drain outlet and from the connection between the flushing pipe and the bowl.

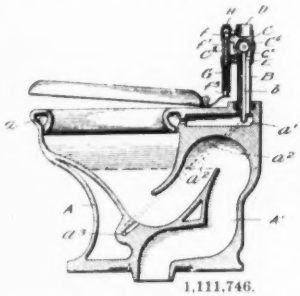


1,111,744

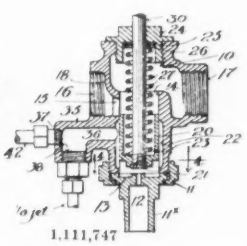


1,111,745

1,111,745. Flushing Device for Water-Closets. Philip Haas, Dayton, O. In an automatic flushing valve for water closets, the combination with a hollow main casing provided with a compression chamber, said main casing being provided with a guiding chamber in axial alinement with the pressure chamber and separated therefrom by a partition having an aperture therein, said casing having an inlet chamber communicating with the guiding chamber on one side of said partition, and an outlet chamber communicating with the compression chamber on the opposite side of said partition, and a by-pass from the inlet chamber to the outer end of the pressure chamber, of a guiding body fitting said guiding chamber, a valve carried thereby normally closing said aperture in the partition, a piston in the pressure chamber, a valve carried thereby for closing the aperture in the partition, a stem secured to said piston and loosely engaging said guiding body, an auxiliary valve normally closing said bypass, means having a part outside the casing for opening said auxiliary valve, and means for maintaining a constant communication between the outer end of the guiding chamber and the inlet chamber, said stem being adjustable to vary the relative positions of the piston and guiding body, and regulate the duration of the flushing, said casing having a removable closure at the outer end of the pressure chamber, whereby said closure can be removed and the piston and its stem withdrawn to adjust the stem to vary the duration of flush and replaced, without cutting off the water supply to the inlet chamber.



1,111,746.



1,111,747

1,111,746. Ventilating Water-Closet. Philip Haas, Dayton, O. The combination with a closet bowl provided with a discharge for fecal matter having a trap portion to contain a liquid seal, of means for discharging water through said trap to break the liquid seal and empty the trap and for thereafter continuously discharging an injector stream through the empty trap and shutting off the admission of water to the bowl from any other source thus preventing the refilling of the trap, to withdraw large

The "Maxco" Automatic Water Closet

is the most desirable equipment on the market for factories, large plants, or wherever hard usage is unavoidable.

Nothing about this closet to get out of order.

Over 500 "MAXCO" Self-Operating Closets are installed in the various plants of the Ford Motor Car Co.

Any jobber can supply you.

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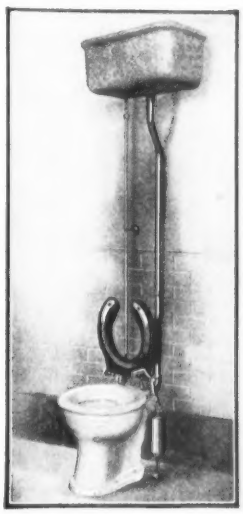

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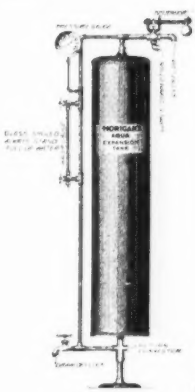

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Requires only a screw driver and hammer to put flashing on.

Most practical roof joint ever made for Soil and Wrought Iron Pipe.

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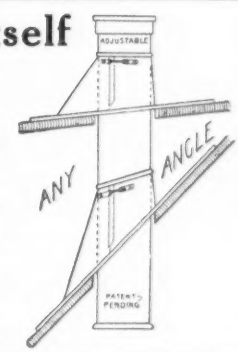

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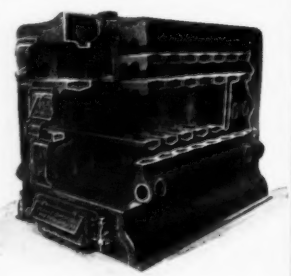

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Any fuel not consumed on upper grate is completely burned on rocking grate below.

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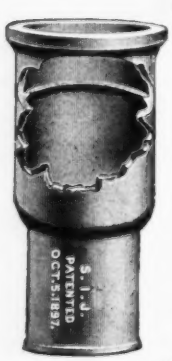

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makes water-tight connections in soil pipe without springing stack or disturbing pipe.

Not necessary to remove whole lengths of pipe.

Saves labor and expense.

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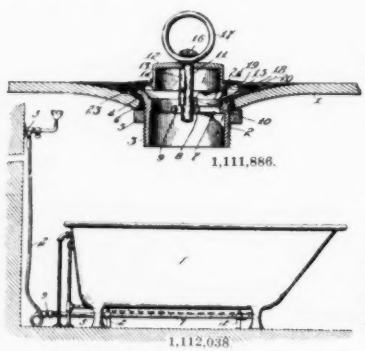
quantities of air from and through the bowl and discharge it through said trap and discharge passage, and for thereafter discharging water into the bowl above the point of communication of the injector discharge passage with the bowl, while continuing the discharge of the injector stream, to flush the bowl, and finally shutting off the supply of water to the bowl, to permit it to refill, and restore the liquid seal.

1,111,747. Water-Closet Valve. Philip Haas, Dayton, O. In a water closet valve, the combination with a valve casing provided with a flushing aperture, and interior cylindrical guiding portions provided with an outlet aperture in the cylindrical wall thereof between the upper and lower ends of said guiding portions, said outlet aperture communicating with said flushing aperture, said casing having a tank supplying and relieving aperture communicating with the interior of the casing above said cylindrical guiding portions and being also provided with an inlet aperture at one end of the casing substantially in line with the axis of said guiding portions, portions of the casing adjacent to said inlet aperture being of greater internal diameter than the cylindrical guiding portions, of a hollow cylindrical valve body fitting said cylindrical guiding portions and adapted to close said outlet aperture when the valve is in open position, said valve body being open at the end remote from the inlet aperture and closed at the other end, the closed end of said valve body being provided with a valve for normally closing the inlet aperture in the casing, said valve body having lateral apertures in its walls communicating with the interior of the valve body, a spring for holding said valve body normally in position with its inlet valve closed, and means for moving the valve body against its spring to open the inlet aperture and simultaneously close the outlet aperture, whereby the water will pass around and through the valve body to the tank, and on the return movement of the valve body to close the inlet aperture, the outlet aperture will be open to permit the tank to discharge through the flushing aperture.

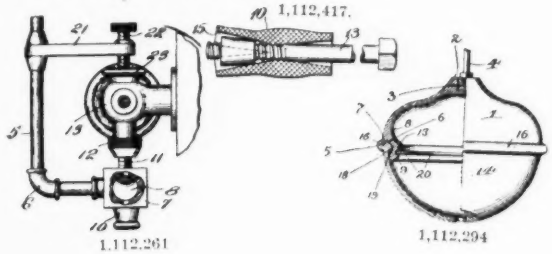


1,111,886. Waste-Outlet. Edward S. Duffy, Chicago, Ill. The combination with a sink having a waste outlet, of an annular member seated in said outlet and having flanged sections at its upper end for engaging the inside of the sink about its outlet, means for securely clamping the annular member to the sink, a bracket extending radially into said annular member and having a guide-way formed therein, a pin slidable in said guide-way and having a shoulder for engaging the upper end of the bracket when in raised position, a plug carried by the upper end of said pin and adapted, when in its lower position, to close said annular member, and a strainer over the annular member secured to the flanged sections thereof and

serving as a guide for said plug and as an abutment to limit the upward movement thereof.

1,112,038. Bath-Tub Heater. John N. Thornton, Bridgeport, Conn. The herein described bath tub heater comprising a tube having a suitable gas inlet and a series of upwardly directed burner outlets, legs embracing the tube and each independently adjustable about the tube to extend therefrom at any desired angle, and means for securing the legs rigidly to the tube in any adjusted position.

1,112,200. Shower-Stall. Henry H. Dupont, Indianapolis, Ind. A stationary shower-stall, comprising an enameled receptor having an upstanding circular flange, an enameled iron wall having a socket at its lower end fitting said upstanding flange, said wall being composed of a plurality of parts, adjacent parts of the wall meeting on a vertical joint formed by a vertical socket along the edge of one part and a co-operating tongue along the edge of the other, said wall parts being provided with exterior lugs near the edges forming such joints, and bolts co-operating with said lugs to hold the wall parts together, said receptor and said wall having the enamel on the inner surface.



1,112,261 1,112,417. 1,112,294

1,112,261. Shower-Bath Attachment. John H. Carter, New Orleans, La. A spigot attachment comprising a valve casing having a discharge spout at its lower side, and an externally threaded nipple at the opposite upper side thereof, a union collar adjustably engaging the threaded nipple for receiving the spigot when the nipple is inserted in the latter, a delivery pipe leading from the casing, an arm on the pipe, and a set screw threaded in the said arm and adapted to engage the spigot at the head thereof for locking the nipple therein.

1,112,294. Tank Bulb or Valve. Irwin F. Kepler, Akron, Ohio, assignor to The B. F. Goodrich Company, New York, N. Y., a Corporation of New York. A tank valve or bulb, comprising an upper substantially rigid section; a lower relatively flexible and elastic section formed of rubber; integrally-formed interlocking members carried by said sections, the members of said lower section tending, by reason of the elasticity thereof, to hug the members of the upper section; and a rigid internal support carried by said upper section adjacent to the joint between the two sections to prevent collapse of the bulb at the joint.

1,112,417. Expansion-Bolt. Joseph Kennedy, New York, N. Y., assignor to The Clements Company, a Corporation of New York. A bolt anchor comprising a tubular shell of soft material having a bore tapered in opposite directions and an internally threaded expander within said shell, the smallest diameter of the bore of said shell being less than the diameter of the threaded portion of the expander.

1,103,666. Stack-Flashing. Robert Franklin Fife, of Canton Supply Co., Canton, O. In combination with an inclined roof and a stack extending therethrough, a stack

When you install **"Reliable" Vacuum Heating Equipment** the responsibility for its satisfactory operation is placed directly up to us, the manufacturers—not distributed among several concerns.

All the **"Reliable" Equipment** is manufactured, thoroughly tested, permanently adjusted, and fully guaranteed by us. This insures a **"trouble-proof heating system."**

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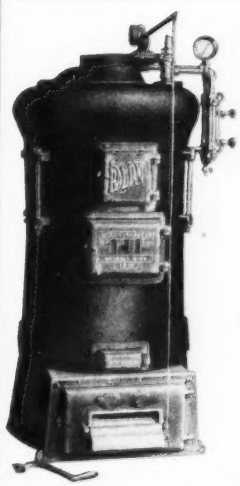

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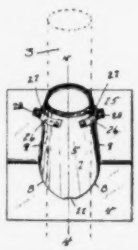
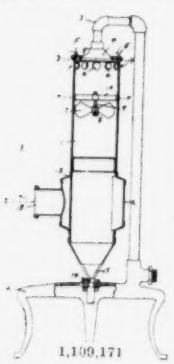
flashing comprises a roof plate provided with an elongated stack opening adapted to accommodate said stack and to permit said roof plate to assume the necessary degree of inclination to conform to the pitch of said roof, the integral edge of said plate around said stack opening turned upwardly from the plane of said plate, that portion of said edge at the power side of said opening extending upwardly farther than the remaining portion of said up-turned edge, a collar connected to said roof plate and surrounding and inclosing said stack opening and upturned edge, the said collar at its upper end adapted to closely encircle and engage said stack and the lower end of said collar being outwardly spaced from said up-turned edge, producing a drainage channel between said up-turned edge and collar and said collar provided with a drainage and ventilation opening leading from the lowest part of the said drainage channel in the interior of said collar onto the roof plate below said collar, whereby leakage into the interior of said collar will be conducted by said drainage channel and discharged onto said roof plate, and air will be permitted to enter the interior of said collar to produce evaporation of dampness.



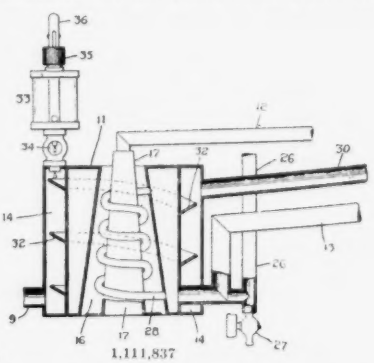
1,103,666.

Heating Department.

1,109,171. Air Purifying and Cooling Device. Carl F. Lundeberg, Hartford, Conn. In an air purifying and cooling device, a cylinder having an air inlet at the top thereof, a sprinkler supplying water under pressure to be mixed with said air within said cylinder, means for separating the air from said water, said means consisting of a sleeve forming an air chamber between itself and said cylinder, said sleeve having an air outlet at one side thereof out of alinement of an opening on the side of said cylinder whereby air may escape through said opening around said cylinder to the air outlet in said sleeve.



1,109,171.



1,111,837.

1,111,837. Humidifying Apparatus. Arthur R. Joyce, New Fairfield, Conn. The combination with a humidifying chamber comprising spaced inner and outer walls, providing a closed space therebetween, of a spiral vaporizing plate arranged within the closed space and vertically inclined in cross-section and extending downwardly toward the inner wall to conduct water fed thereon upon the inner wall, means to supply water into the closed space to the upper end of the spiral vaporizing plate, heating means arranged within the inner wall, air inlet means for the closed space, and air outlet means communicating with the closed space and adapted to supply humidified air to a chamber, substantially as described.